



UNITED STATES MARINE CORPS  
MARINE CORPS SYSTEMS COMMAND  
2200 LESTER STREET  
QUANTICO, VIRGINIA 22134-5010

IN REPLY REFER TO:

5720

DON-USMC-2019-006692

3 Jun 19

KIRKLAN & ELLIS LLP  
MS. MICHELLE SIX  
601 LEXINGTON AVENUE  
NEW YORK NY 10022

SUBJECT: FOIA DON-USMC-2019-006692

Dear Ms. Six:

This responds to your FOIA request dated April 4, 2019, which requests various documents related to Combat Arms Earplugs Version 2 from 2000 to 2015.

Your request is hereby partially denied. After a careful review of the requested documents, this agency has determined that portions of the responsive documents are privileged from disclosure pursuant to FOIA Exemptions 5 U.S.C. § 552(b)(4) and 5 U.S.C. § 552(b)(6) and must be withheld in order to protect the submitter's proprietary and/or financial interests and the personal privacy of third parties.

FOIA Exemption 5 U.S.C. § 552(b)(4) exempts from disclosure (i) voluntarily submitted commercial or financial information provided that the submitter does not "customarily" disclose the information to the public and provided that disclosure would be likely to interfere with the continued and full availability of the information to the government, or (ii) compelled information likely to cause substantial harm to the competitive position of the person from whom it was obtained and likely to impact on the government's ability to obtain reliable information in the future. See Critical Mass Energy Project v. NRC, 975 F2d 871, 879-80 (D.C. Cir. 1992), cert. denied, 113 S.Ct. 1579 (1993); National Parks & Conservation Ass'n v. Morton, 498 F2d 765, 766 (D.C. Cir. 1974); Canadian Commercial Corp. v. Dept. of Air Force, 514 F.3d 37 (D.C. Cir., 2008).

FOIA exemption 5 U.S.C. § 552(b)(6) protects personal identifiers (such as names and contact information) of third parties, the release of which would constitute an unwarranted invasion of personal privacy.

As of June 3, 2019, one half hour of search and review (currently billed at \$44 per hour) has been expended during the processing of your request. Please remit a check or money order, payable to the Treasurer of the United States in the amount of \$24.00 to: COMMANDER, ATTN LAW, MARCORSYSCOM, 2200 LESTER STREET, SUITE 120, QUANTICO VA 22134-5010.

Department of the Navy  
Office of the General Counsel  
ATTN: FOIA Appeals Office  
1000 Navy Pentagon Room 4E635  
Washington DC 20350-1000

For consideration, the appeal must be received in that office within 60 days from the postmark of this letter's envelope. Attach a copy of this letter and a statement regarding why you believe an adequate search was not conducted. Both your appeal letter and the envelope should bear the notation "FREEDOM OF INFORMATION ACT APPEAL". Please provide a copy of any such appeal letter to the MARCORSYSCOM address above.

Any questions concerning this matter should be directed to Mrs. Bobbie Cave at (703) 432-3934 or [bobbie.cave@usmc.mil](mailto:bobbie.cave@usmc.mil).

Sincerely,

J. J. STOWER  
Chief of Staff

**From:** [REDACTED] (b) (6)  
**To:** [REDACTED] (b) (6)  
**Subject:** RE: 4th Generation Combat Arms  
**Date:** Tuesday, July 07, 2015 12:44:45  
**Attachments:** [4th Generation Combat Arms Info.pdf](#)

---

Attached you will find plenty of info on 4th Generation combat arms earplugs (CAEs). On the last page you will see the Noise Reduction Ratings (NRRs) for the single-ended aces which are the 4th generation model. The NRR for these plugs is 23 dB when the plug is closed and 7 dB when it is open (23 dB for impulse noise like weapons fire). The NRR for the 1st generation plug is 22 dB for closed side and 0 dB for open side (when worn properly). NRRs are obtained in a lab and determine how much a hearing protective device will attenuate or turn down noise under ideal conditions. NRRs help us determine if something is hearing protection or not and what I think you were referring to as far as needed information to justify purchase. You are exactly right in that it doesn't matter what the NRR is if the plug doesn't correctly fit the ear which is why that was added to the new MCO. The current 1st generation combat arms plugs we are issuing only properly fit about 50% of ears so this will be a great solution to that problem. The new 4th generation plugs are also much more user friendly which will increase proper use of the plug.

DLA definitely has their own language! Ha

-----Original Message-----

From: [REDACTED] (b) (6)  
Sent: Tuesday, July 07, 2015 11:07 AM  
To: [REDACTED] (b) (6)  
Subject: RE: 4th Generation Combat Arms

(b) (6)

Sorry I missed your call and thanks for the below information. DLA speaks their own language, don't they? I'm actually going up to Philadelphia on Thursday to meet with DLA and we might be able to squeeze this into the agenda.

I'll try to stay around my phone for the majority of the day. One of the main things I want to find out is if the Gen 4 CAE have been tested to ensure they meet whatever sound attenuation we've previously accepted with the older Combat Arms Earplugs. I assume they have and that poor fitting earplugs don't protect well no matter what testing shows but for most personal protective gear, we have to qualify an item before it can be purchased and issued to Marines.

I think this is important and want to ensure whatever solution takes place for Lejeune can also be implemented at the other CIFs. Thanks,

(b) (6)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

(b) (6)

-----Original Message-----

From: (b) (6)

Sent: Tuesday, July 07, 2015 10:11 AM

To: (b) (6)

Subject: FW: 4th Generation Combat Arms

I wanted to forward you this conversation I had with the medical supply personnel at DLA as there is info I will bring up in our conversation. Thank you.

V/R,

(b) (6)

-----Original Message-----

From: (b) (6)

Sent: Thursday, May 28, 2015 3:34 PM

To: (b) (6)

Cc: (b) (6)

Subject: RE: 4th Generation Combat Arms

(b) (6)

You have choices in purchasing. Access: Supports for Living Inc. (formerly New Dynamics) is the mandatory source. The NSNs are on the AbilityOne Procurement List. You can go to them directly to purchase. You can submit a MILSTRIP requisition to us (SMS) and we'll purchase them for you.

However, the item is on the DAPA (Distribution and Pricing Agreement) with New Dynamics (new name Access: Supports for Living Inc.) so you can purchase them through the Prime Vendor (PV). Camp Lejeune's PV is Cardinal Health.

If you want to purchase through the PV program you need to work with our PV folks, (b) (6) or (b) (6) to establish a Prime Vendor Order Number (PVON). When the PVON is established you can purchase the items through the PV. In ordering through the PV your costs will be significantly lower.

Let me know if you have additional questions.

(b) (6)

-----Original Message-----

From: (b) (6)

Sent: Thursday, May 28, 2015 1:42 PM

To: (b) (6)

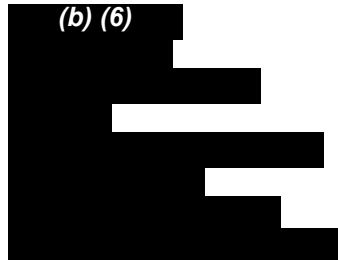
Cc: (b) (6)

Subject: RE: 4th Generation Combat Arms

Thank you very much! To be clear, Camp Lejeune CIF would need to order these items directly through Supports for Living Inc unless the items are part of the PV program? In that case, would CIF then just order the items through there? Or does CIF have to order items through the DLA regardless? (this is all new to me). I really appreciate all of your support as this is definitely going to improve the hearing conservation program for Camp Lejeune and give our marines and sailors better access to appropriate hearing protection. Thanks again.

Very Respectfully,

(b) (6)



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-----Original Message-----

From: (b) (6)

Sent: Thursday, May 28, 2015 12:56 PM

To: (b) (6)

Cc: (b) (6)

Subject: FW: 4th Generation Combat Arms

(b) (6)

The tips in the spreadsheet do have NSNs. All customer direct (CD) items. We do not stock them in the depot. The source for all three NSNs is Access: Supports for Living Inc. (formerly New Dynamics.). The NSNs are:

6515-01-576-8837; Part Number 370-1030, small. UI is PG of 50 pair. Total delivery cost is \$738.71 per pg. GENERATION IV COMBAT ARMS EARPLUG; EACH PLUG INCLUDES OLIVE DRAB EARPLUG TIP AND IN-EAR SELECTOR SWITCH; PACKAGE OF 50 PAIRS

6515-01-576-8861; Part Number 370-1031, medium. UI is PG of 50 pair. Total delivery cost is \$739.18 per pg. GENERATION IV COMBAT ARMS EARPLUG; EACH PLUG INCLUDES DESERT TAN EARPLUG TIP AND IN-EAR SELECTOR SWITCH; PACKAGE OF

50 PAIRS

6515-01-576-8869; Part Number 370-1032, large. UI is PG of 50 pair. Total delivery cost is \$738.72 per pg. GENERATION IV COMBAT ARMS EARPLUG; EACH PLUG INCLUDES COYOTE BROWN EARPLUG TIP AND IN-EAR SELECTOR SWITCH; PACKAGE OF 50 PAIRS

I have included the DAPA IST Chief [REDACTED] (b) (6) and the DAPA Contracting Officer [REDACTED] (b) (6). They will check the DAPA to see if the items are available through the Prime Vendor (PV) program. The cost maybe lower.

Respectfully,

(b) (6)

(b) (6)  
[REDACTED]  
[REDACTED]

-----Original Message-----

From: [REDACTED] (b) (6)  
Sent: Wednesday, May 27, 2015 11:08 AM  
To: [REDACTED] (b) (6)  
Subject: FW: 4th Generation Combat Arms

[REDACTED] (b) (6)

Can you investigate. Thx.

-----Original Message-----

From: [REDACTED] (b) (6)  
[REDACTED] (b) (6)  
Sent: Wednesday, May 27, 2015 10:57 AM  
To: [REDACTED] (b) (6)  
Subject: 4th Generation Combat Arms

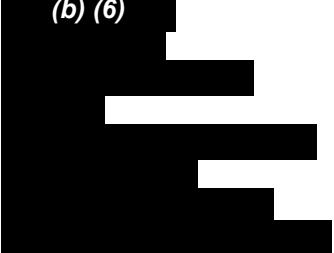
NSN: 6515-01-576-8861

This is the type of hearing protection that I am hoping CIF can order in the future. It comes in 3 different sizes and this is the medium size. The large NSN is 6515-01-576-8869 and small is 6515-01-576-8837. Rather than ordering large amounts of all the sizes, I am hoping they can just order mediums (the first NSN I gave you) and then boxes of replacement tips. These tips do not have a NSN number but do have an access number associated with each size. I have attached the table giving all of the needed information for each product. My question is if CIF were to order however many combat arms earplugs in the medium size and then several boxes of the replacement plugs, is this something that could be done with the information provided on the attached form? Thank you again for all of your help.

Please verify that you received my email so I know we are good.

Very Respectfully,

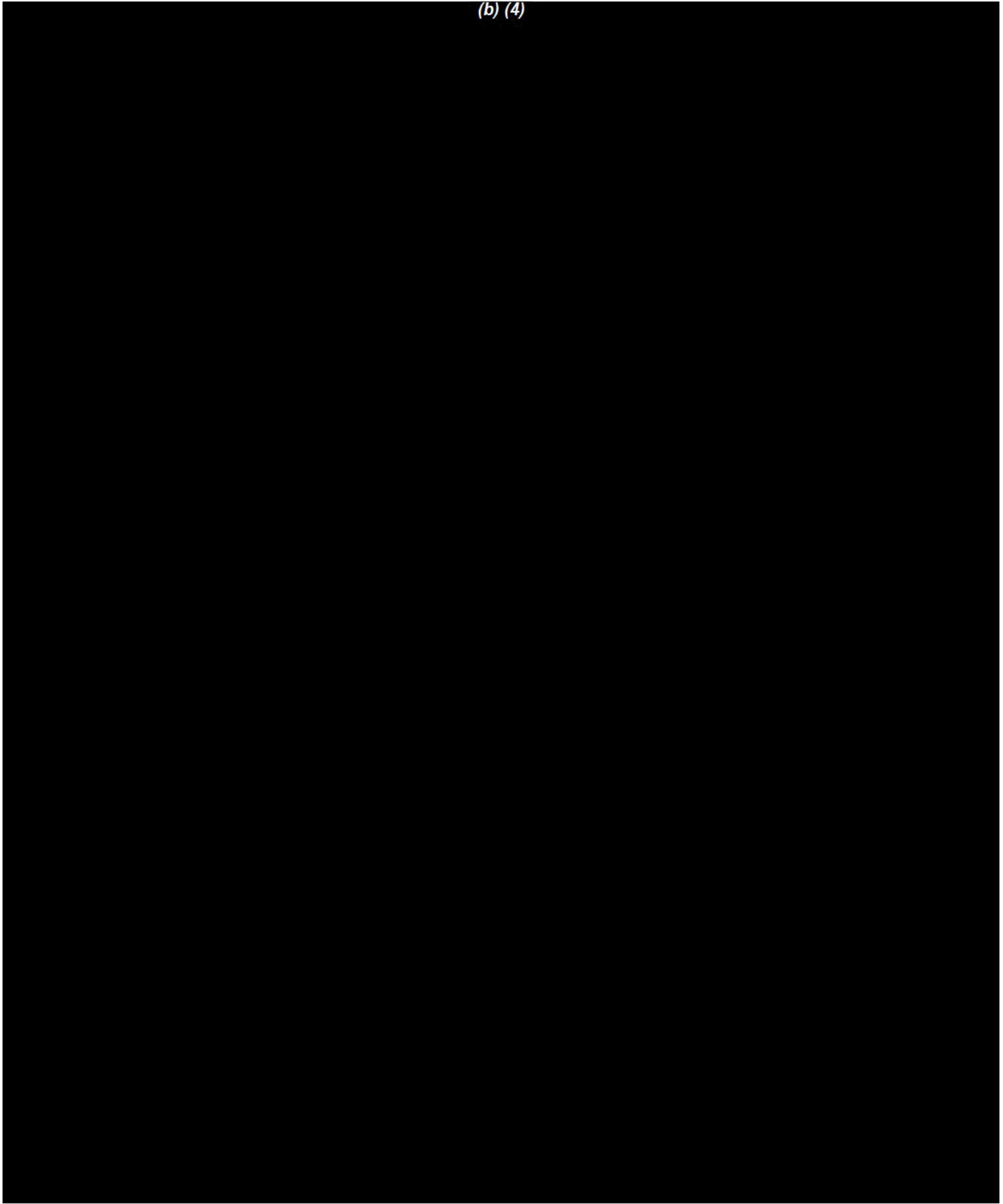
(b) (6)



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(b) (4)



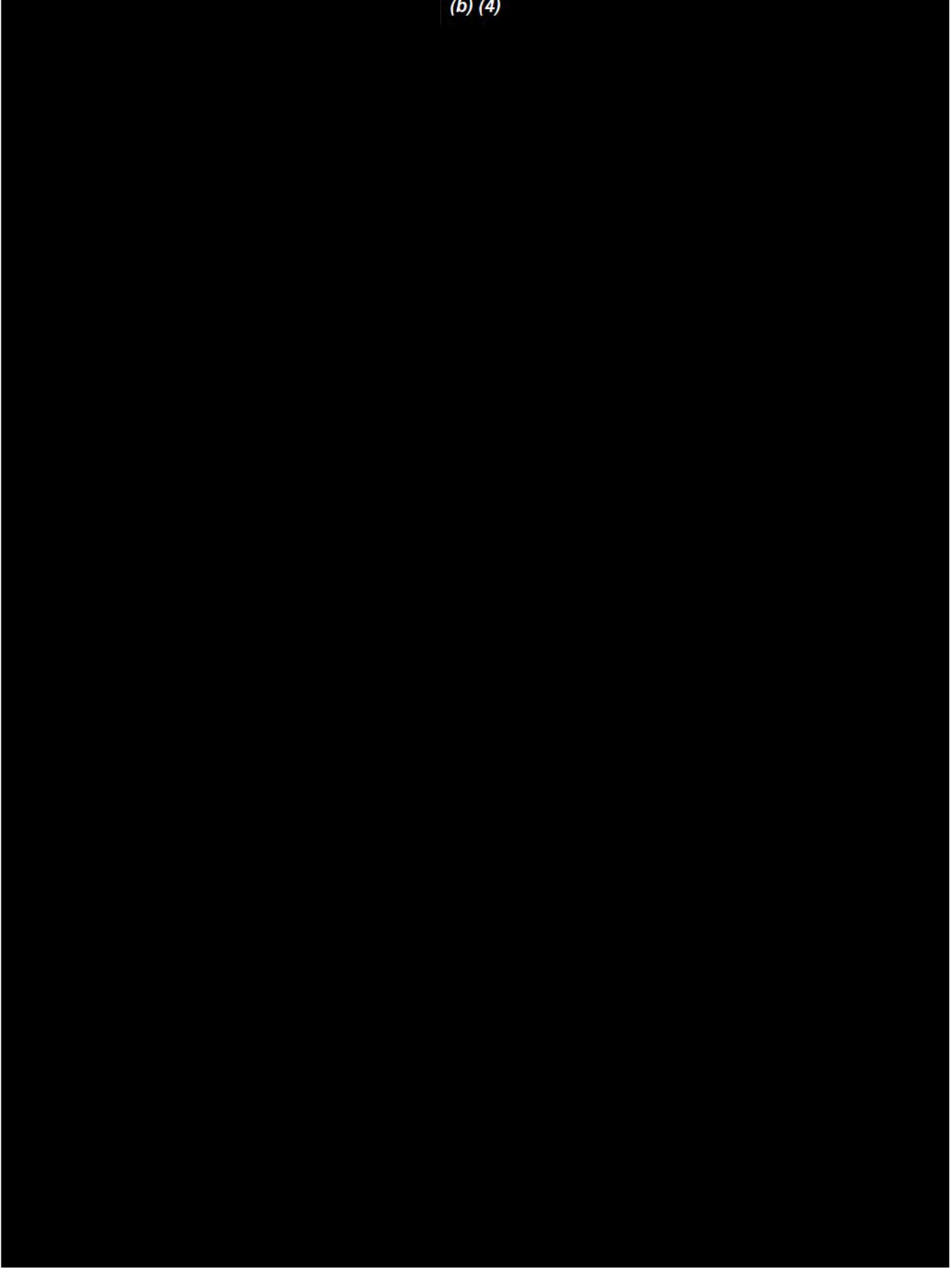
(b) (4)

(b) (4)



**(b) (4)**

| (b) (4)



**From:** (b) (6)  
**To:** (b) (6)  
**Subject:** RE: One-sided (Gen 4) Combat Arms Earplugs  
**Date:** Monday, July 13, 2015 9:11:56

---

(b) (6)

Thanks for the notes. I will try calling you this afternoon

I will also try to track down who has been purchasing the Generation 4 Combat Arms Earplugs. We sell all our combat arms earplugs in the US the an Ability One supplier, New Dynamics, now called Access Supports for Living, who does final assembly and packaging of the product. I will call them to try to find out who in the Marine Corps might be buying the Gen 4 product.

(b) (6)

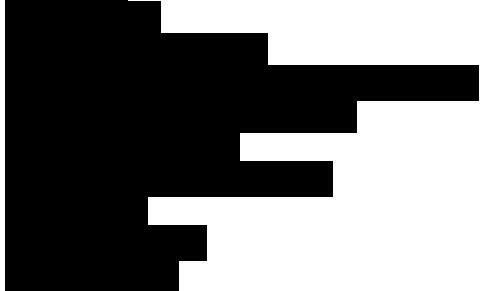


-----Original Message-----

From: (b) (6)  
Sent: Monday, July 13, 2015 7:50 AM  
To: (b) (6)  
Subject: [EXTERNAL] RE: One-sided (Gen 4) Combat Arms Earplugs

Actually, I'll only be near my desk this afternoon, after about 1pm.

(b) (6)



-----Original Message-----

From: (b) (6)  
Sent: Monday, July 13, 2015 8:46 AM  
To: (b) (6)  
Cc: (b) (6)  
Subject: RE: One-sided (Gen 4) Combat Arms Earplugs

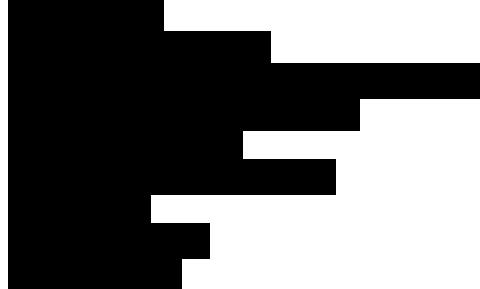
(b) (6)

We had seen on an earplug sales website that the Marine Corps had recently bought 50,150 pairs of one-sided combat arms earplugs. We would like to know who within the Marine Corps made that purchase (if it is true) and when. It would also be helpful to know about any other large DoD purchases of this item. You can always reach me

via e-mail or I'll be around my desk most of the day.

Thanks,

(b) (6)



-----Original Message-----

From: (b) (6)  
Sent: Friday, July 10, 2015 1:21 PM  
To: (b) (6)  
Cc: (b) (6)  
Subject: RE: One-sided (Gen 4) Combat Arms Earplugs

(b) (6)

Thank you for your time today. Attached is the ARL report on non-electronic level dependent HPDs I mentioned.

I have also included (b) (6) on this reply. (b) (6) more detailed information about existing contracts/orders for the dual ended CAE. If you let (b) (6) when you are free (b) (6) will give you a call at your convenience.

Please reach out to me if I can be of any assistance.

(b) (6)

(b) (6)



From: (b) (6)  
To: (b) (6)  
Date: 07/10/2015 12:49 PM  
Subject: RE: One-sided (Gen 4) Combat Arms Earplugs

(b) (6)

-----Original Message-----

From: (b) (6)  
Sent: Friday, July 10, 2015 9:36 AM  
To: (b) (6)  
Subject: [EXTERNAL] One-sided (Gen 4) Combat Arms Earplugs

(b) (6)

I work with (b) (6) on the ECH program (b) (6) gave me your name as a point of contact for hearing protection. I recently found out about the release of MCO 6260.3 which came out in March. Just like everything, it is open for interpretation but at least some people are reading it as directing that all Marines (or at least deployers) must be issued the Gen 4 Combat Arms Earplugs. I'd like to talk with you so that we can get a better understanding of this gear. Specifically, I would like to know: 1) what testing and test data exists, 2) what comes with NSNs 6515-01-576-8837/61/69 (e.g. case, cord, etc) 3) production capability and status of large DoD purchases.

I'm at Quantico on the East Coast and I'll be around either of the numbers below for most of today if you are available. If not, let me know what time would work for you next week. Thanks,

(b) (6)

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*ARMY RESEARCH LABORATORY*



## **U.S. Marine Corps Level-Dependent Hearing Protector Assessment: Objective Measures of Hearing Protection Devices**

by [REDACTED] (b) (6) and [REDACTED] (b) (6)

ARL-TR-6780

January 2014

## **NOTICES**

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# **Army Research Laboratory**

Aberdeen Proving Ground, MD 21005

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**ARL-TR-6780**

**January 2014**

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## **U.S. Marine Corps Level-Dependent Hearing Protector Assessment: Objective Measures of Hearing Protection Devices**

(b) (6) and (b) (6)  
Human Research and Engineering Directorate, ARL

# REPORT DOCUMENTATION PAGE

*Form Approved  
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<b>4. TITLE AND SUBTITLE</b>  U.S. Marine Corps Level-Dependent Hearing Protector Assessment: Objective Measures of Hearing Protection Devices				<b>5a. CONTRACT NUMBER</b>	
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<b>6. AUTHOR(S)</b>  (b) (6) and (b) (6)				<b>5d. PROJECT NUMBER</b>	
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<b>9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b>  (b) (6) 2200 Lester St BLG 2200 BC538 Quantico, VA 22134				<b>10. SPONSOR/MONITOR'S ACRONYM(S)</b>  USMC	
				<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>	
<b>12. DISTRIBUTION/AVAILABILITY STATEMENT</b>  Approved for public release; distribution unlimited.					
<b>13. SUPPLEMENTARY NOTES</b>					
<b>14. ABSTRACT</b>  To characterize the effects of four level-dependent earplug-style hearing protection devices (HPDs), measurements were made of the passive attenuation of steady-state and impulsive noise, as well as the localization ability of listeners while they wore each HPD. Three HPDs were mechanical (Moldex BattlePlugs, 3M Combat Arms Earplugs, and the SureFire EP4 Sonic Defenders Plus). These triple-flange earplug-style HPDs provide level-dependent protection through the incorporation of a filter that allows the user to hear ambient sounds with minimal attenuation but protects against impulsive noises above about 105-dB peak. We tested the fourth HPD (Etymōtic Electronic BlastPLG EB15) in the inactive condition only, but it can provide ambient environmental hearing via external microphones and uses electronic circuitry to limit or shut off the transmission of unsafe levels of noise. The three mechanical earplugs provided similar (8–14 dB) passive attenuation of steady-state pink noise presented at 105 dB A. One-third octave band analyses of this attenuation showed differences in the spectral profile at higher frequencies. The inactive EB15, tested with foam ACCU-Fit ER38-14F ear-tips, provided 28 dB of passive attenuation. The devices all provided in excess of 30-dB attenuation of an impulsive noise presented at approximately 157-dB peak; in particular, the inactive EB15 provided more than 34 dB of passive attenuation. All four devices caused an increase in average localization error—near 0° and 180°, most likely due to reversals. The average unsigned azimuth error did not differ significantly across the four earplugs, ranging from about 38 to 42. All four earplugs, as tested, provide sufficient protection against noise. The significance of the mechanical earplugs' differential effects on the spectral content of lower-level steady-state noise on spatial orientation and, ultimately, user acceptance are discussed. Similarly, we note the limitations of inferences made from tests of the EB15 in only a passive mode.					
<b>15. SUBJECT TERMS</b>  hearing protection, level dependent, sound localization, attenuation, noise					
<b>16. SECURITY CLASSIFICATION OF:</b>		<b>17. LIMITATION OF ABSTRACT</b>	<b>18. NUMBER OF PAGES</b>	<b>19a. NAME OF RESPONSIBLE PERSON</b> (b) (6)	
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified	UU	32	<b>19b. TELEPHONE NUMBER (Include area code)</b> (b) (6)

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## 1. Objective

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This effort was funded by the U.S. Marine Corps Program Manager Infantry Combat Equipment (PM ICE) as a part of its Marine Rifle Expeditionary Squad program. The objective was to determine the comparative attenuation performance characteristics of four level-dependent earplugs in impulsive and steady-state noise environments in order to assess how these differences might affect user acceptance (figure 1). As these attenuation characteristics can also affect a user's auditory spatial perception, auditory localization ability was also measured. Three of these were designed with a filter that prevents levels of noise exceeding approximately 105 dB from entering the ear. We tested the Moldex<sup>\*</sup> BattlePlugs<sup>†</sup> (Mx), the 3M<sup>‡</sup> Combat Arms<sup>§</sup> Earplugs (CAE), and the SureFire<sup>\*\*</sup> EP4 Sonic Defenders<sup>††</sup> Plus (SF).

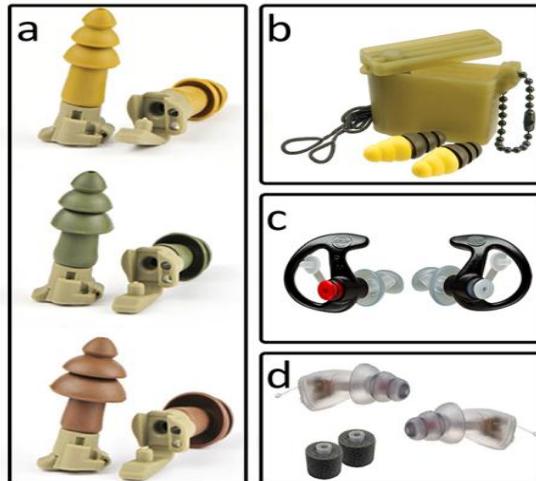


Figure 1. Hearing protectors tested: (a) Moldex BattlePlugs, (b) 3M Combat Arms Earplugs, (c) SureFire EP4 Sonic Defenders *Plus* (SF), and (d) Etymōtic Electronic BlastPLG EB15 earplug.

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<sup>\*</sup>Moldex is a registered trademark of Moldex, Culver City, CA.

<sup>†</sup>BattlePlugs is a registered trademark of Moldex, Culver City, CA.

<sup>‡</sup>3M is a registered trademark of The 3M Company, St. Paul, MN.

<sup>§</sup>Combat Arms is a registered trademarks of The 3M Company, St. Paul, MN.

<sup>\*\*</sup>SureFire is a registered trademark of SureFire, LLC, Fountain Valley, CA.

<sup>††</sup>Sonic Defenders is a registered trademark of SureFire, LLC, Fountain Valley, CA.

The fourth item, the Etymōtic<sup>\*</sup> Electronic BlastPLG<sup>†</sup> EB15<sup>‡</sup> earplug (EB15) is an “active” device designed to use electronic limiters and compression to provide hearing of low-level ambient sounds while protecting against high-level noise; it was tested with ACCU-Fit<sup>§</sup> ER38-14F foam ear-tips and with the batteries removed. Testing the EB15 without batteries makes it a passive hearing protector without level-dependent features. This was done by request from the customer, as active testing of the same device was planned for future testing. Without the level-dependent features, it is expected that the device will have higher levels of attenuation, both of steady-state and impulsive noise. Effects on localization will depend on the degree to which localization cues are audible. It is acknowledged that (as-tested) comparisons of the EB15 to the other earplugs are not reasonable and were not the intent of the study. Rather we report the objective data as observed.

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## 2. Steady-State Attenuation Testing

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One common criticism of level-dependent hearing protectors is that even at safe levels (below 85 dB A), they cause some attenuation, which may reduce the detection of, and impair auditory sensitivity to, desirable auditory information. If a user feels that this attenuation is too great, it may affect acceptance of a hearing protector and compliance with mandated hearing protector use. Therefore, while the primary function of these hearing protectors is to attenuate high-level impulse noise, we wish to document the steady-state attenuation introduced by wearing the protectors. Ideally, a level-dependent HPD will provide little attenuation of safe levels (less than 85 dB A) of steady-state noise and at least 25-dB attenuation of very intense (greater than 140 dB peak) impulsive noise.

### 2.1 Facilities and Instrumentation

#### 2.1.1 Auditory Test Fixture (ATF), Reference Microphone, and Recording System

A G.R.A.S. Hearing-Protector Auditory Test Fixture (ATF) Type 45CA (see figure 2), fitted with IEC 60711 ear simulators and molded pinnae, was positioned in the center of the room and used to record the test signal. A PreSonus Firestudio<sup>\*\*</sup> recording interface set to a sampling rate of 44.1 kHz was used for analog to digital conversion and to transmit the signal to a laptop computer where it was recorded using Adobe Audition 3.0.

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<sup>\*</sup>Etymōtic is a registered trademark of Etymōtic Research, Inc., Elk Grove Village, IL.

<sup>†</sup>BlastPLG is a registered trademark of Etymōtic Research, Inc., Elk Grove Village, IL.

<sup>‡</sup>EB15 is a registered trademark of Etymōtic Research, Inc., Elk Grove Village, IL.

<sup>§</sup>ACCU-Fit is a registered trademark of Etymōtic Research, Inc., Elk Grove Village, IL

<sup>\*\*</sup>Firestudio is a registered trademark of PreSonus Audio Electronics, Inc., Baton Rouge, LA.

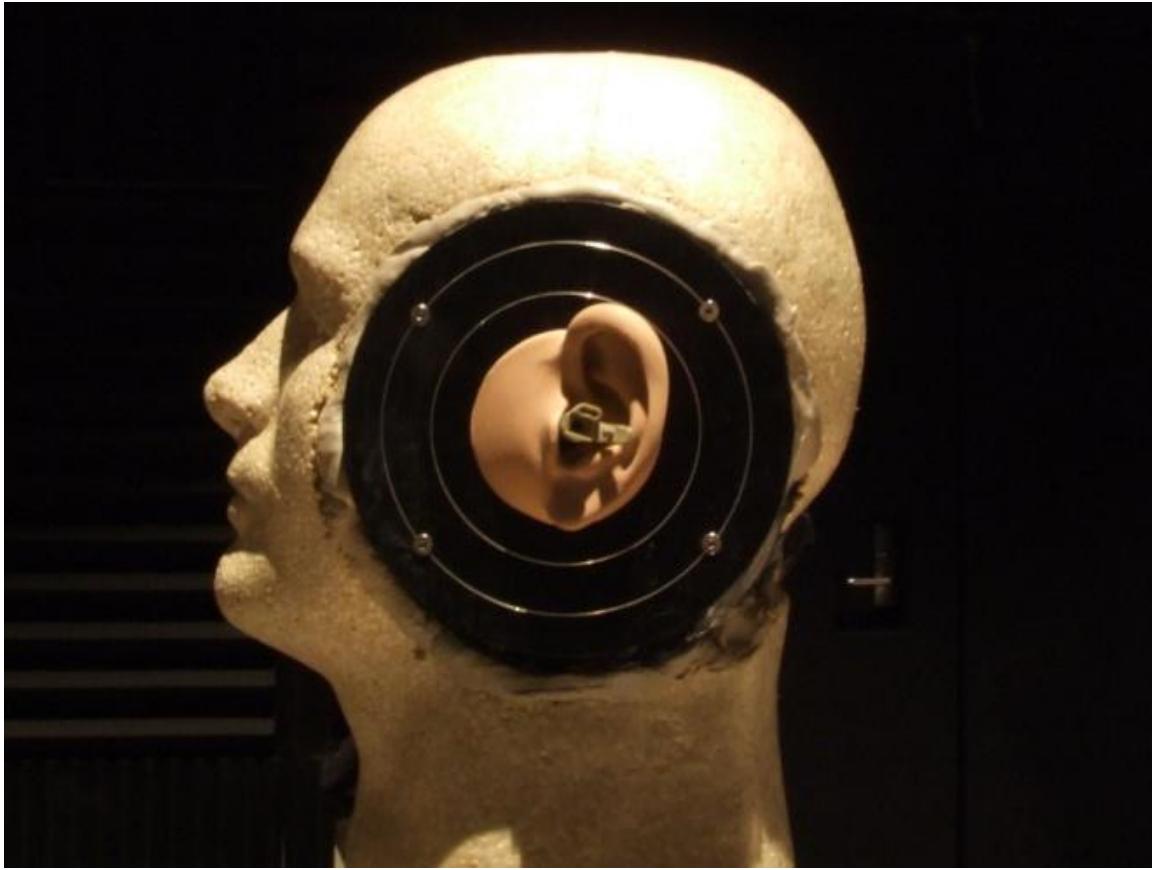


Figure 2. G.R.A.S. Hearing-Protector Test Fixture Type 45CA (shown with Mx inserted). (The Styrofoam headform was not on this ATF during testing.)

### 2.1.2 Research Facilities, Loudspeaker, and Test Signal

A pink-noise test signal was presented from four background loudspeakers placed in the corners of the U.S. Army Research Laboratory's Environment for Auditory Research (EAR) Dome Room (Henry et al., 2009) about 4 m from the center of the room (see figure 3). The noise was presented at 100 dB A, as measured with a Brüel & Kjær Sound Level Meter Type 2226 held at the location of the ATF. This level was chosen because it is within the range for which the microphones (inside the ears) of the ATF are designed and high enough to remain in that range when a HPD is in place. It is not expected that this level would be high enough to involve any significant increase in attenuation over the HP's attenuation at low sound levels.



Figure 3. Dome Room of the Environment for Auditory Research at the U.S. Army Research Laboratory.  
(Person and chair shown were not present during recordings and were replaced by the G.R.A.S. 45CA shown in figure 2.)

## 2.2 Variables

There were two independent variables investigated in the study: HPD condition and one-third octave frequency. The four HPD conditions were Mx, CAE, SF, and EB15. The dependent variable was attenuation, defined as the difference between the signal level, as measured by the ATF with and without the HPD.

## 2.3 Procedures

A G.R.A.S. 42AA sound calibrator with an adapter that allows it to be coupled to the ATF was used to generate a signal of 250 Hz at 114 dB. This signal was recorded through each channel (left and right ears) of the testing system and used as a calibrated reference for the other measurements.

The 100-dB pink-noise test signal was then played continuously from the loudspeakers. A reference measurement was made by recording the test signal with no hearing protection in place. Then the HPD under test was inserted into the ears of the ATF and a 5-s recording was made from both ATF ears (left-right channels) simultaneously. The HPD was then removed and reinserted and the recording process repeated. This procedure was repeated for each of the HPDs under test.

## 2.4 Data Analysis

Each set of recordings ( $2 \times \text{HPD}$ ) was processed using a custom MATLAB algorithm to compute the levels for each component octave and one-third octave band (ANSI/ASA S1.6-1984, 2011). This was also done for the reference set recorded with no HPD. A-weighting (ANSI/ASA S1.42-2001, 2011) was then applied and the A-weighted one-third octave, octave, and overall levels were obtained. A-weighted values were used for all analyses reported in this report. For each HPD, attenuation was calculated by computing the reduction in the overall A-weighted signal level when the device was in place compared to the level in the bare-head fixture. Attenuation, as a function of one-third octave and octave band frequency, was then calculated in the same manner. Figures 4–6 show overall attenuation and attenuation as a function of frequency for the HPDs under test. The error bars represent  $\pm 1$  standard deviation.

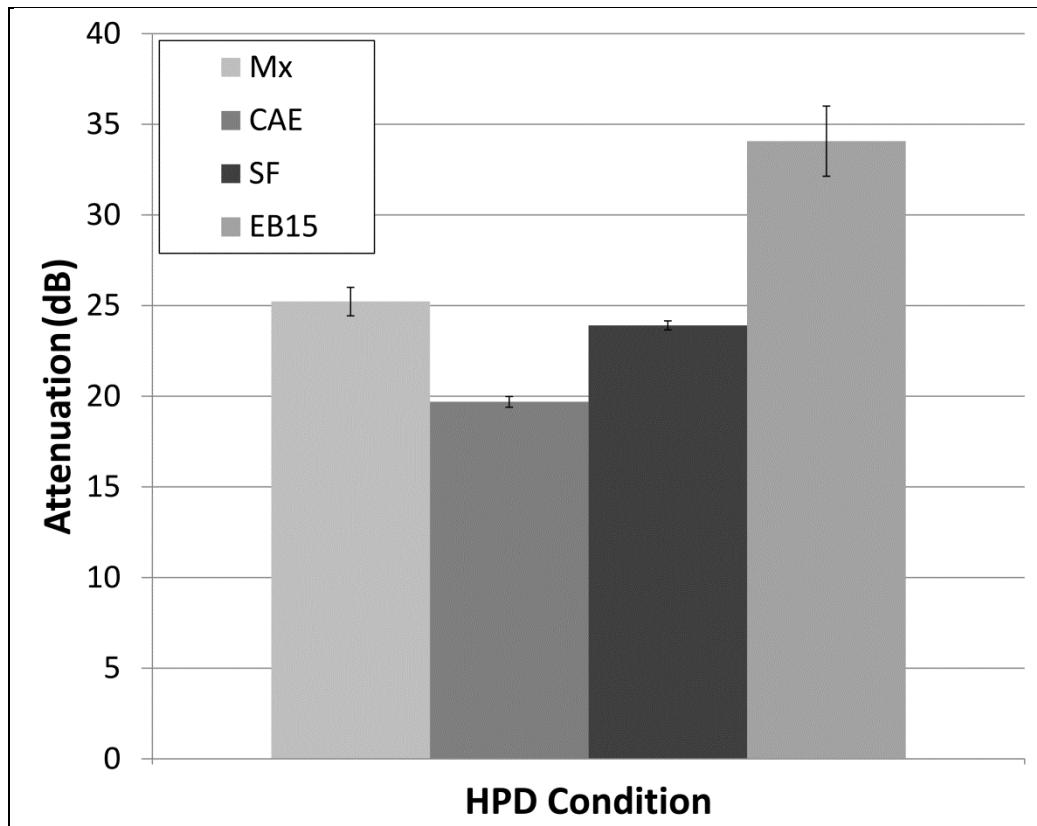


Figure 4. Average overall steady-state attenuation values measured for each HPD under test. The error bars represent  $\pm 1$  standard deviation.

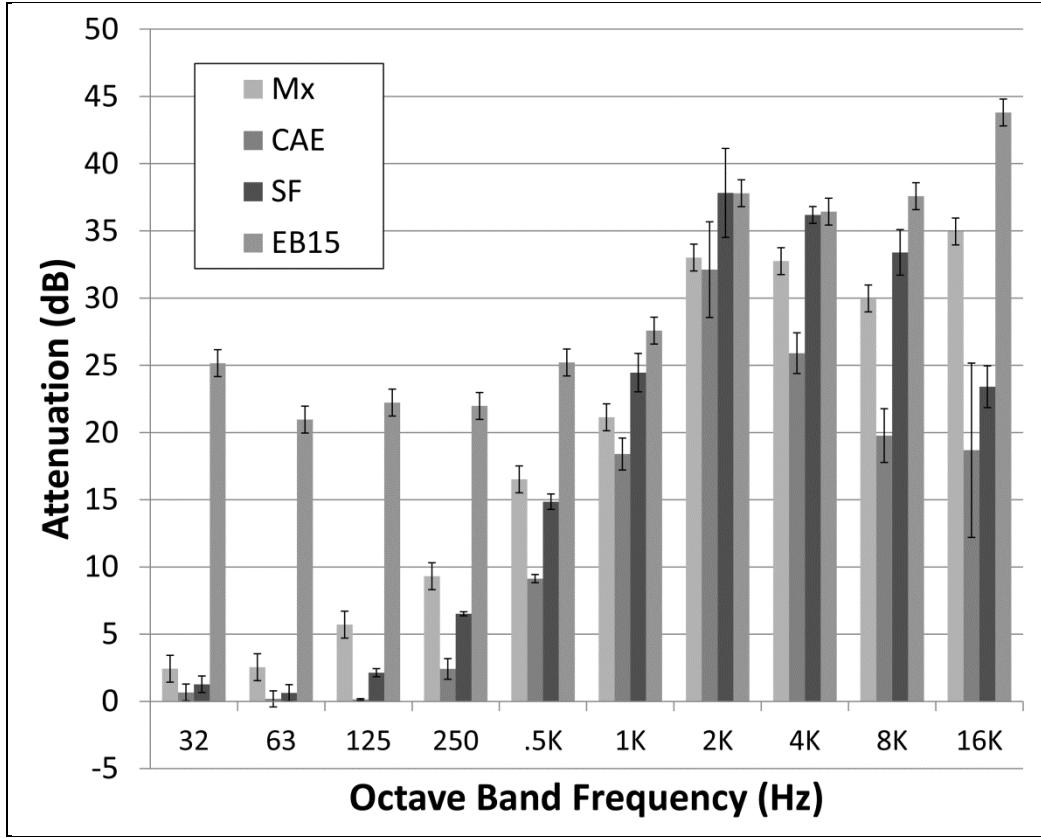


Figure 5. Average octave-band steady-state attenuation values measured for each HPD under test. The error bars represent  $\pm 1$  standard deviation.

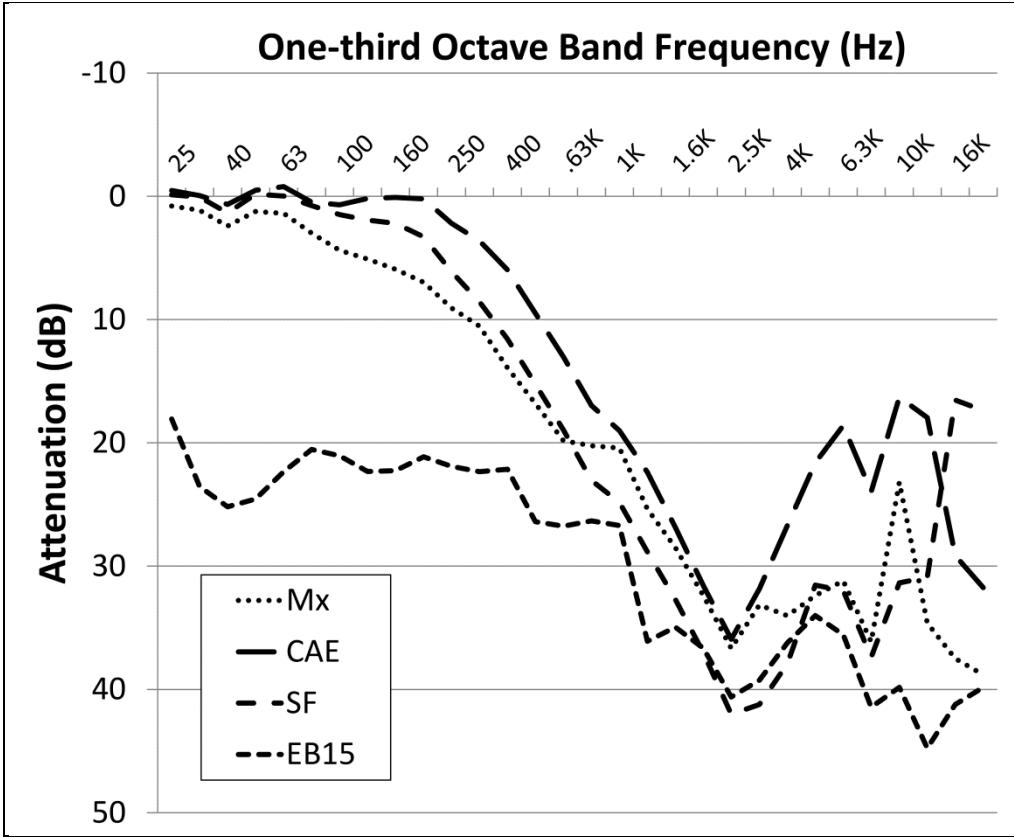


Figure 6. Average one-third octave-band steady-state attenuation values measured for each HPD under test. (Error bars not shown for visual clarity.)

The 34 dB of attenuation shown for the EB15 hearing protectors was clearly higher than for the other HPDs, but this earplug was the only HPD with electronic features, and it was tested in the “off” position. Therefore, it did not have any of the level-dependent features provided by the other earplugs. Of the three HPDs with mechanical filters, the most attenuation, approximately 25 dB, was observed for the Mx. The least attenuation overall was observed for the CAE, approximately 20 dB.

The ear canal typically amplifies frequencies in the 1- to 4-kHz range (Moore, 2012). Therefore, obstruction of the ear canal should result in not only passive attenuation of noise but also eliminate the amplifying function of the ear canal at those frequencies. Consistent with this prediction, all HPDs showed the most attenuation in this frequency range. The frequency envelope of attenuation for the EB15 differs in that the average attenuation of frequencies below 500 Hz is 22 dB versus 6 dB (Mx), 3 dB (SF), and 1 dB (CAE) for the other HPDs. At high frequencies there seemed to be some differences in the passive attenuation provided by the earplugs, and this effect was quite apparent at the one-third octave band level of analysis. The CAE consistently attenuated less across nearly all frequencies. At the octave band level, some of these finer differences disappeared, but the general pattern remains that the CAE attenuated the least, followed by the SF and the Mx HPDs; the EB15 attenuates the most.

Each of the recording events resulted in two recordings (left and right ears) and a set of attenuation values for each octave and one-third octave band. A two-factor analysis of variance with recording event as a covariate (ANCOVA) was computed for attenuation as the dependent variable with the independent variables being HPD and one-third octave band frequency. Table 1 shows the statistics for the significant variables. The data indicate significant main effects of HPD and of one-third octave band frequency,  $F(3, 359) = 790.4, p < .01$ ; and  $F(29, 359) = 311.7, p < .01$ . The data indicates a significant interaction between HPD and frequency,  $F(87, 359) = 12.5, p < .01$ . Note that because the attenuation observed for the EB15 was clearly different from the other HPDs, it could potentially account for all of the significant effects. However, planned contrasts confirm that the three mechanical earplugs are significantly different from each other and from the EB15 ( $p < .01$ ).

Table 1. Significant ANOVA results for attenuation ( $\alpha < .05$ ).

Source of Variance	<i>df</i>	<i>F</i>	<i>p</i>
HPD	3	790.4	0.000
Frequency	29	311.7	0.000
HPD*Frequency	87	12.5	0.000
Error	359	7.28	—

If attenuation is driving user acceptance, the CAE is the winner for the mechanical earplugs. There is less attenuation overall, in the speech range (300–3000 Hz) and in the higher frequencies (greater than 4 kHz) where monaural localization cues are derived. However, if comfort is the driver, acceptance may be more idiosyncratic, depending on the users' perceptions of fit and preferences. Although no measures of comfort were used during testing, it was noted by the experimenters that the SF and EB15 earplugs are constructed with a softer, more pliable material and are available in multiple sizes. (Other versions of the CAE are manufactured in multiple sizes, but the version issued to the Marines and supplied for testing is available in only one size.) Since the EB15 was not tested with its talk-through microphones turned on, the frequency envelope of the pass-through levels is not known from this testing. Therefore, although the measured attenuation would seem undesirable for allowing the user to remain sensitive to the auditory environment, the conditions in which it was measured do not reflect normal intended usage.

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### 3. Impulse Noise Attenuation Testing

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We tested all four HPDs for their attenuation of impulse noise. For the three HPDs designed with mechanical filters, this was a test of whether the level-dependent filters function as intended to protect against impulse noise. The EB15 was tested in the passive “off” condition.

### **3.1 Facilities and Instrumentation**

#### **3.1.1 ATF, Reference Microphone, and Recording System**

All impulse noise measurements were made in the EAR Distance Hall. Recordings were made using the French-German Research Institute of Saint-Louis (ISL) ATF designed to accommodate pressure levels of up to 190 dB peak (Buck and Parmentier, 1999). Recordings were made using the same reference microphone and PreSonus Firestudio system described in section 2.1.1. The reference microphone and ATF were 1 m apart at the same distance from the shock tube.

#### **3.1.2 Impulsive Noise Signal**

A pneumatic impulse noise source (PINS) was used to present impulsive noises for measurement. Figure 7 shows the reference microphone, ATF, and PINS used to present impulses for measurement. The average impulse level presented from the shock tube as measured with the reference microphone was 157 dB peak and the standard deviation of impulses was 1.9 dB.



Figure 7. Left to right, G.R.A.S 40BH reference microphone, Institute Saint Louis (ISL) auditory test fixture, and shock tube used for impulse testing.

### **3.2 Calibration**

A reference level was established for all of the measurements by recording a 114-dB, 250-Hz calibration signal with each ATF microphone and the reference microphone. Subsequently, recordings were made of two instances of impulsive noise with the microphones of the ATF (unoccluded ears) and the reference microphone. These recordings were used to estimate the transfer function of the ear canal. From these recordings, it was determined that the left and right ears of the ATF contribute amplifications of 4.87 and 4.68 dB, respectively, due to resonance in the ear canal (Shaw, 1974). To determine attenuation, we computed the difference between the peak level measured by the ATF (the left and right ear each contributed separate data points) and the peak level measured by the reference microphone, minus the transfer function for that ear.

### **3.3 Testing Procedure**

We positioned the HPD on the ATF and obtained a recording of the shock-tube-generated impulsive noise from the microphones of the ATF and the reference microphone. This process was repeated three times for each HPD with refitting between each measurement. During testing it was noted that different levels of attenuation were being obtained with the EB15 HPDs, and that these differences depended on the person inserting the earplugs. Depending on the depth and manner of insertion, attenuation values varied from about 40–60 dB. Noting this, a fourth set of recordings was conducted for the EB15 HPDs (with the insertion performed by the experimenter getting the better results) and the specifics will be discussed in the results section of this report.

### **3.4 Data Analysis and Results**

At least three impulses were presented for each HPD, resulting in six attenuation values for each HPD. The average impulse attenuation values are shown in figure 8. The error bars represent  $\pm 1$  standard deviation.

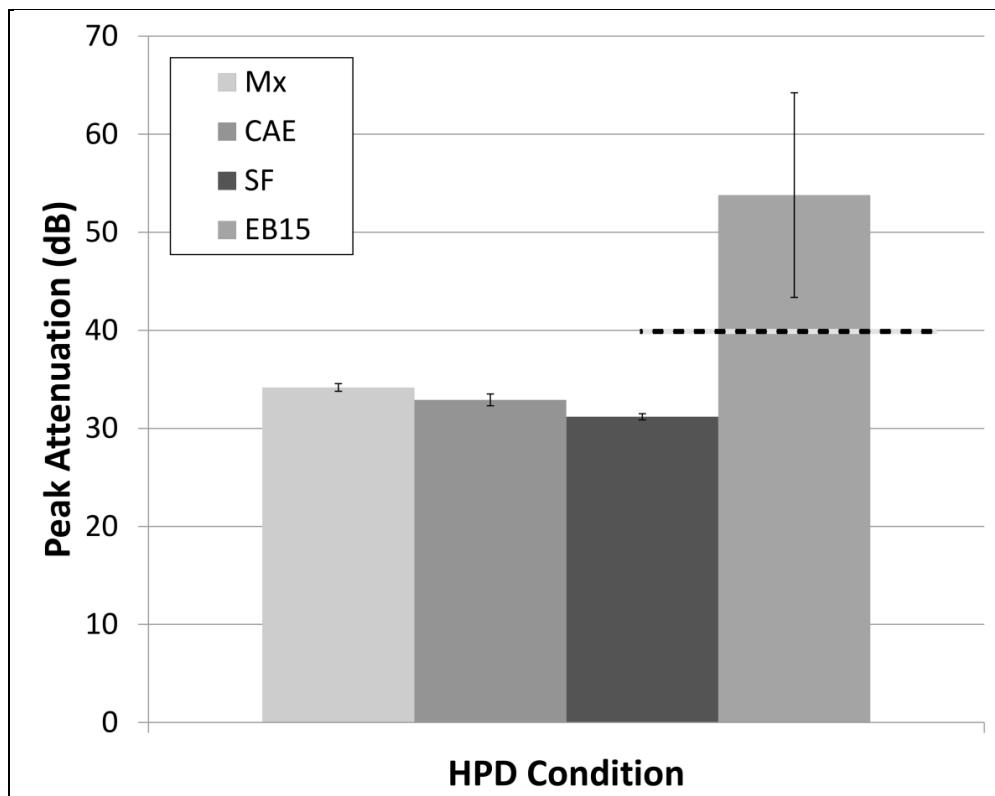


Figure 8. Average impulse attenuation measured for each HPD under test.

We were obtaining variable results with the EB15 foam ear-tips. Figure 8 shows the average of all values obtained for the EB15. Table 2 shows all eight values obtained by experimenters A and B. When experimenter A inserted the ear-tips, we obtained attenuation values that were approximately 10–20 dB higher. This is consistent with other documented findings that link attenuation to skill when rolling and inserting the foam earplugs. However, these values are probably higher than what would be expected for a human listener due to attenuation limits caused by bone-conducted sound transmission. The ATF does not account for bone-conducted transmission of sound, and as such, inflates estimates of impulsive noise attenuation. The dotted line in figure 8 represents the expected cap on actual protection due to the attenuation limits on bone-conducted sound transmission.

Table 2. Attenuation values (dB) obtained for the EB15 HPD.

Ear	EB15_1	EB15_2	EB15_3	EB15_4
Left	41	55	63	60
Right	41	43	64	62

Note: Lighter shading indicates insertions performed by experimenter B; darker shading indicates insertions performed by experimenter A.

All HPDs provided 30 dB of attenuation, showing that the filters functioned as intended to protect against impulsive noise. Of the HPDs with a level-dependent feature, the Mx provided the most attenuation (34 dB) and the SF provided the least (31 dB). A one-way analysis of variance (ANOVA) was computed for attenuation with HPD as the independent variable. The main effect of HPD condition was significant [ $F(3, 22) = 24.0, p < .01$ ]. Simple contrasts confirmed that all of the HPDs were significantly different from each other ( $p < .01$ ); however, it is unclear that there is practical significance in the differences in auditory sensitivity caused by the three different earplugs with mechanical filters.

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## 4. Localization Testing Methods

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The differences in the effect of the HPDs on the spectral envelope of attenuation may affect a user's auditory spatial perception and consequently, his or her acceptance of the HPD. Therefore, the ability to localize sounds was evaluated for each of the HPDs as well as for the bare head.

### 4.1 Participants

Thirteen listeners, aged 18–40 years, participated in this study. Due to equipment issues, data were not recorded for the first two participants; therefore, we report the data for 11 participants (8 male, 3 female). One of the investigators inspected the listeners' ears with an otoscope prior to testing to ensure that their ear canals were unobstructed and that there would be no interference with the use of earplugs. We then screened their hearing by measuring their pure tone thresholds for octave frequencies 250–4000 Hz using calibrated audiometric equipment in a sound-treated room. All 13 participants met the U.S. Army's H1 hearing classification, defined in the Army Hearing Conservation Program (DA PAM 40-501, 1998) as an average threshold level at 500, 1000, and 2000 Hz that does not exceed 25-dB hearing level (HL) with no individual threshold greater than 30-dB HL, and the threshold at 4000 Hz with no individual threshold greater than 45-dB HL. The investigators adhered to the policies for protection of human participants as prescribed in AR 70-25 (1990).

### 4.2 Facilities and Instrumentation

#### 4.2.1 Loudspeaker Array

Target stimuli were presented from a spherical loudspeaker array consisting of 57 Meyer Sound MM-4XP miniature loudspeakers housed in the EAR Sphere Room (Henry et al., 2009). We used only the 16 loudspeakers on the horizontal ring (radius 2.5 m) at 0° elevation to present target sounds, with the loudspeakers located at equal intervals of 22.5° separation (figure 9).

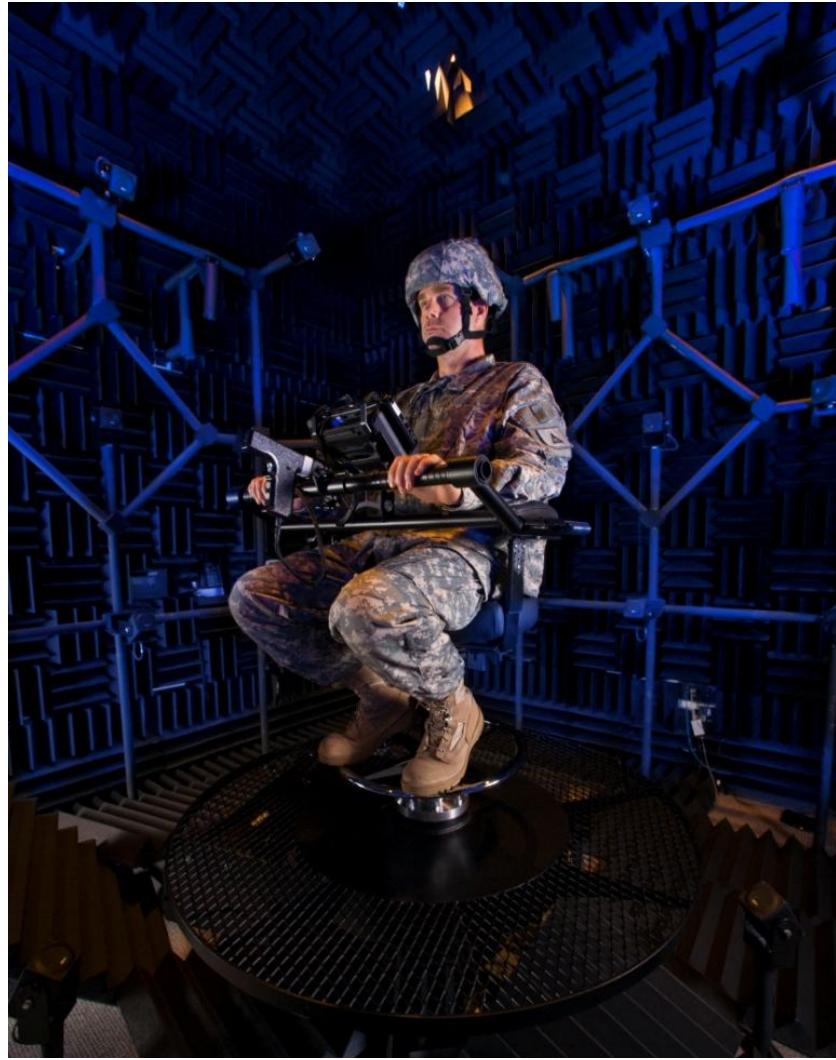


Figure 9. Testing setup used for the localization test. (No helmet used in this experiment.)

#### 4.2.2 Rotating Chair

Each participant sat in a rotating chair at the center of the loudspeaker array on a raised platform that placed their ears at the same elevation as the 0° loudspeaker ring. The chair was free to rotate 360° and was equipped with an optical shaft encoder and a laser tracker on the center of a horizontal bar attached to the chair in front of the participant. Although the bar is free to rotate plus or minus 90° in pitch, it was fixed in place to allow for responses only from the horizontal plane during this study. Participants began each trial facing 0° azimuth and then responded by rotating the chair to point the laser in the direction from which they believed a stimulus came, pushing a button to register their response. A computer recorded the direction of the response based on the outputs of the laser tracker and the optical shaft encoder, providing redundant positional information. During this study, the laser tracker data were used in the analyses.

### **4.3 Variables**

There were two independent variables investigated in the study: head condition, and sound source azimuth. Five head conditions were evaluated: bare head, Mx, CAE, SF, and EB15. The 16 azimuth locations were  $0^\circ$ ,  $\pm 22.5^\circ$ ,  $\pm 45^\circ$ ,  $\pm 67.5^\circ$ ,  $\pm 90^\circ$ ,  $\pm 112.5^\circ$ ,  $\pm 135^\circ$ ,  $\pm 157.5^\circ$ , and  $180^\circ$ . A 250-ms burst (with 5-ms ramps) of white noise at 70 dB was presented nine times from each of the loudspeakers for a total of 144 instances per block of trials. The order of presentation location was varied randomly within the block. A single block of trials was presented for each of the head conditions.

The dependent variable of interest was azimuth error, defined, as the difference in degrees between the perceived stimulus source location azimuth (as identified by the listener) and that of the actual stimulus source azimuth.

### **4.4 Procedures**

After the initial audiometric screening, all participants were familiarized with the listening task prior to initiation of their first block. Each participant was then fitted properly with the appropriate HPD. Participants listened to blocks of stimuli that consisted of all trials for a particular head configuration condition (bare, Mx, CAE, SF, and EB15). Presentation of each block lasted approximately 25 min. Participants were given breaks between blocks to reduce the effects of fatigue. Additionally, each trial was initiated by the participant, so additional breaks could be taken if needed.

### **4.5 Data Analysis, Results, and Discussion**

Our objective was to measure the effects of HPDs on auditory localization ability relative to that with the bare head as a measure of spatial auditory perception. Localization errors made in this study were calculated as both signed (constant) and unsigned azimuth errors. Signed error contains information about both the magnitude and direction of an error. Average signed error can reveal underlying distortions of the auditory space stemming from the acoustics of the equipment or the test space itself. However, when averaged, signed data underestimates overall error magnitude because errors in opposite directions cancel each other out. The precision of judgments must be obtained from the average unsigned error of localization responses and is a measure of random error (Hartmann, 1983). Therefore, both types of errors will be discussed.

Two-factor ANOVAs were conducted for the signed (table 3) and unsigned (table 4) azimuth error with the independent variables being HPD condition and sound source azimuth. Subject ID was included as a covariate in order to account for individual differences. Polar plots show the signed errors as a function of HPD and sound source azimuth (figure 10).

Table 3. Significant ANOVA results for signed azimuth error ( $\alpha < .05$ ).

<b>Source of Variance</b>	<b><i>df</i></b>	<b><i>F</i></b>	<b><i>p</i></b>
Azimuth	15	300.9	0.000
Head condition $\times$ azimuth	60	12515.2	0.000
<i>Error</i>	7580	2004.22	—

Table 4. Significant ANOVA results for unsigned azimuth error ( $\alpha < .05$ ).

<b>Source of Variance</b>	<b><i>df</i></b>	<b><i>F</i></b>	<b><i>p</i></b>
Head condition	4	60.0	0.000
Azimuth	15	61.1	0.000
Head condition $\times$ azimuth	60	3.7	0.000
<i>Error</i>	7580	1710.25	—

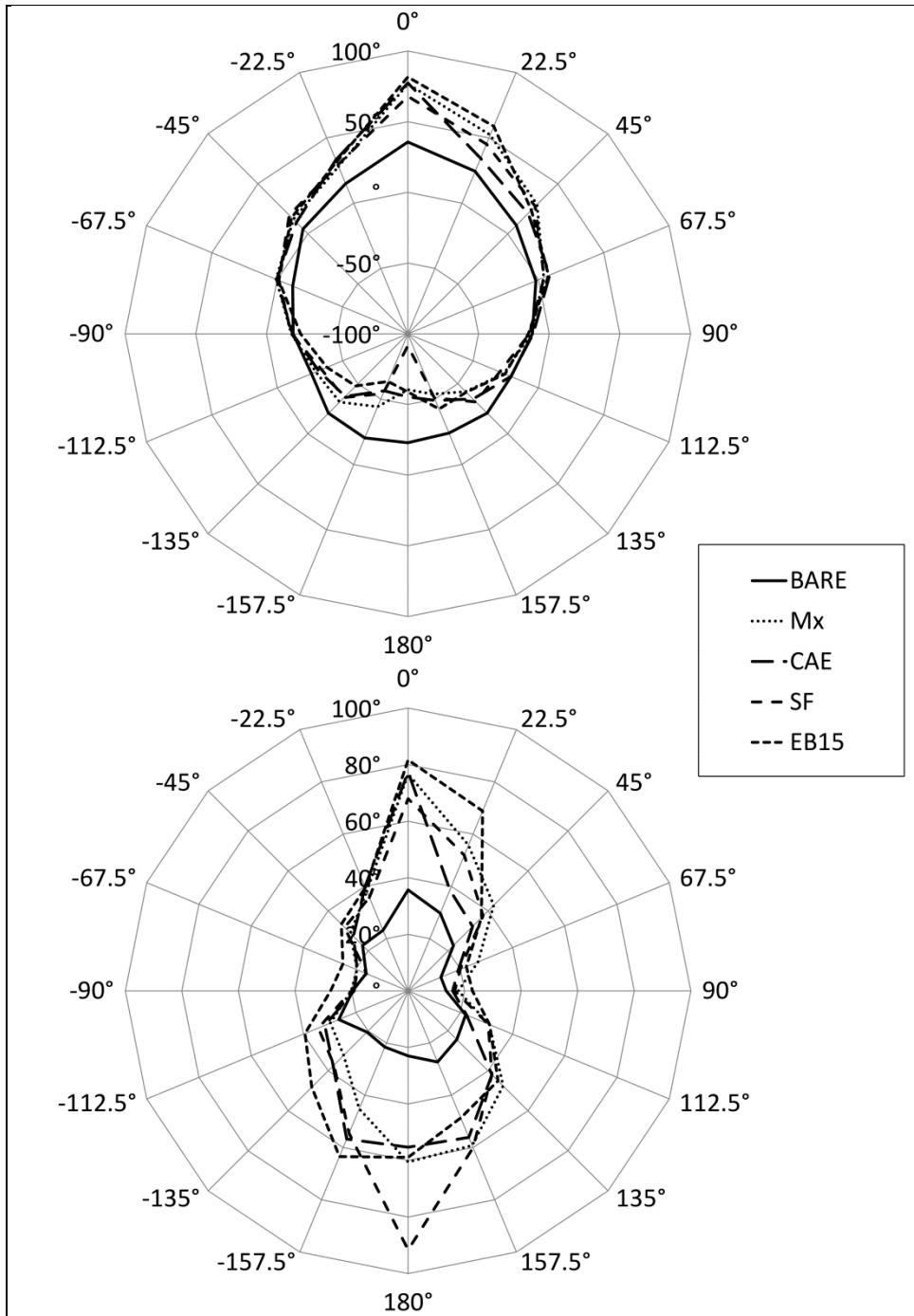


Figure 10. Signed and unsigned azimuth error as a function of head condition and azimuth.

In the signed error data, negative errors indicate the participant estimated the sound source to be closer to the front ( $0^\circ$ ) than the actual target location. Positive errors mean that the estimate was farther to the rear than the actual target location. If localization errors are driven by lack of precision, estimates will fall on either side of the target location and on average cancel out. Using average signed data will obscure any real differences in the magnitude of errors occurring for the

various HPDs. This is not to suggest that all errors are likely to be cancelled out. Differences due to an increase in front-back confusions will result in an increase in positive errors near 0° and an increase in negative errors near 180°. Even without HPDs, it is normal to observe some differences in error as a function of azimuth, due to front-back confusions.

The data did not indicate a significant difference in signed azimuth error as a function of hearing protection use. There was a main effect for azimuth— $F(15, 7580) = 300.9, p < .01$ —consistent with the expected changes in error size due to front-back confusions. The different effects of the HPDs are revealed in the interaction between head condition and azimuth— $F(60, 7580) = 12,515.2, p < .01$ —and are observed in the polar plot shown in the upper half of figure 10. Wearing hearing protection increased positive errors in the front near 0°, and increased negative errors in the rear near 180°, consistent with what would occur as a function of increased front-back confusions.

The signed error data allow us to detect any biases that signal problems with the measurement method or acoustics of the facility. The data shown here are symmetric relative to the midline. Although the data indicated a small difference between the left and right hemispheres, the differences are idiosyncratic and not of practical importance.

The bottom half of figure 10 gives the unsigned error data as a function of head condition and azimuth. There were significant main effects of head condition and azimuth [ $F(4, 7580) = 60, p < .01$ ;  $F(15, 7580) = 61.1, p < .01$ ]. Figure 11 shows the average unsigned error and standard deviation for each of the head conditions. A planned comparison of the average unsigned azimuth error observed for the HPDs and the bare head indicated that the difference (averaging 17°) is significant ( $p < .01$ ). Table 5 lists the  $p$  values for all pair-wise comparisons; when significant, this is indicated with an asterisk. Of the HPDs, the unsigned azimuth error was least for the CAE (37°) and greatest for the EB15 (43°). Although there were some statistically significant comparisons, given that the overall range is 6°, it is not clear that they would be of practical significance to a user.

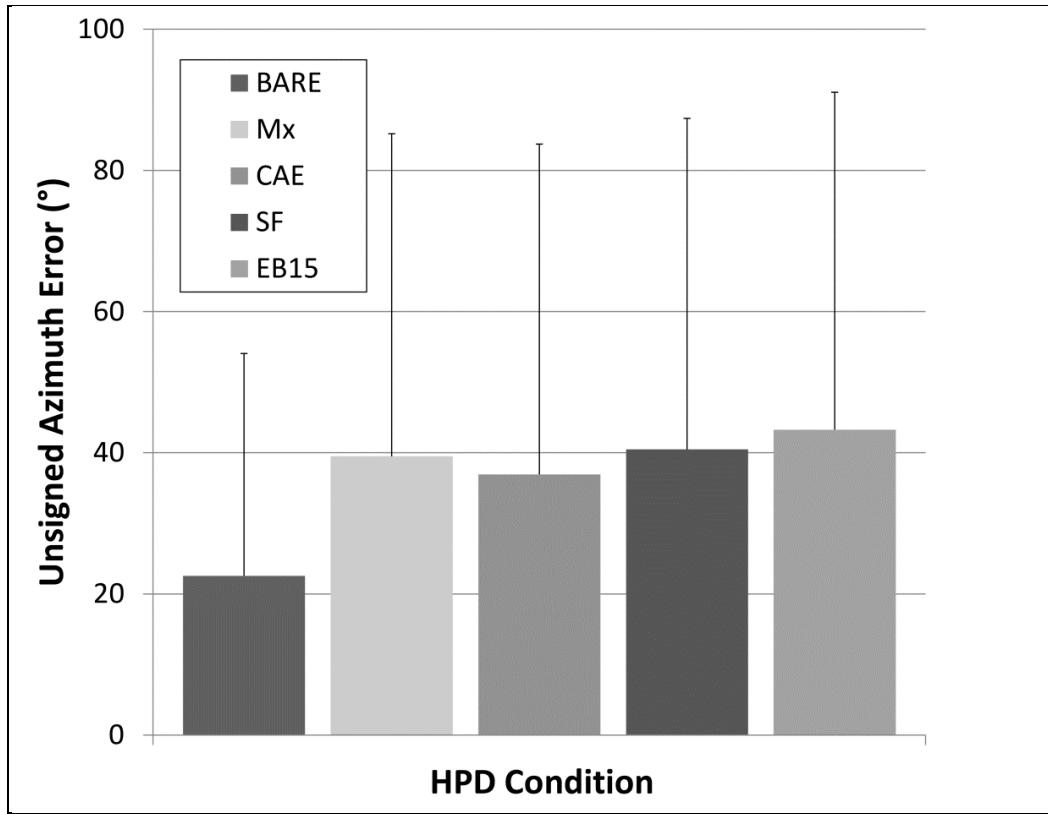


Figure 11. Average unsigned azimuth error as a function of head condition. The error bars represent  $\pm 1$  standard deviation.

Table 5. Results of special contrasts comparing the unsigned azimuth attenuation of the HPDs. Values shown are  $p$  values. Asterisks indicate significant contrasts.

		Mx		
		CAE	CAE	
CAE	Mx	0.086		
	CAE	0.509	0.018*	SF
SF	Mx	0.013*	0.000*	0.064
	CAE			
EB15	Mx			
	CAE			

The interaction between head condition and azimuth was significant [ $F(60, 7580) = 3.7, p < .01$ ]. The plot on the bottom half of figure 10 suggests that this difference is due to an increase in the magnitude of errors near  $0^\circ$  and  $180^\circ$  when wearing hearing protection. This azimuth-dependent pattern of error magnitude is associated with errors that are the result of front-back confusions, otherwise known as reversals.

An analysis to determine whether the results can be explained by errors due to reversals was done by computing whether the reverse of an estimate was closer to the sound source location

than the estimate. If it was, the trial was coded as a reversal. Figures 12 and 13 show the percentages of trials coded as a reversal for each head condition and as a function of azimuth. The similarity of these graphs to figures 10 and 11 suggest that errors due to reversals drive most of the differences in localization performance. Performance was best for the bare head. Among the earplugs, performance was best with the CAEs and worst with the EB15. There was a significant increase in the tendency to make front-back reversal errors at 180° ( $p < .05$ ) with the SF. However, for the most part, the differences between the earplugs were of no practical significance, suggesting that one might do best to choose based on an individual's preferred fit.

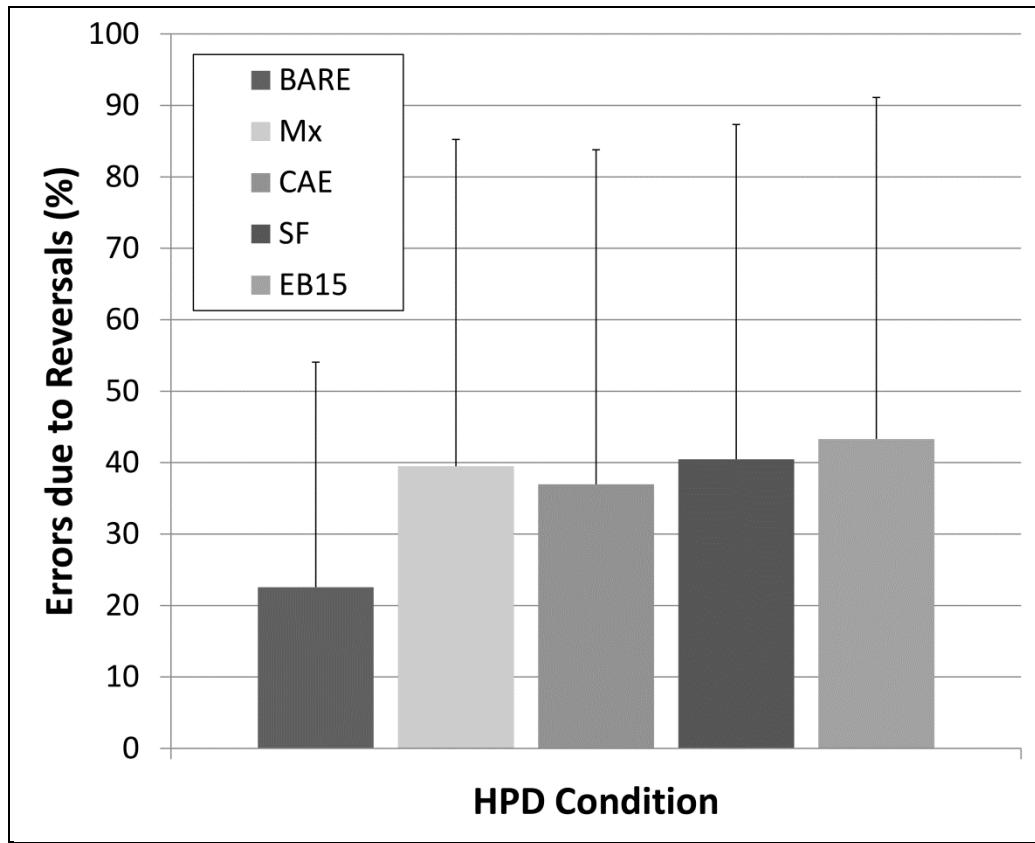


Figure 12. Percent of trials classified as reversals shown as a function of head condition.

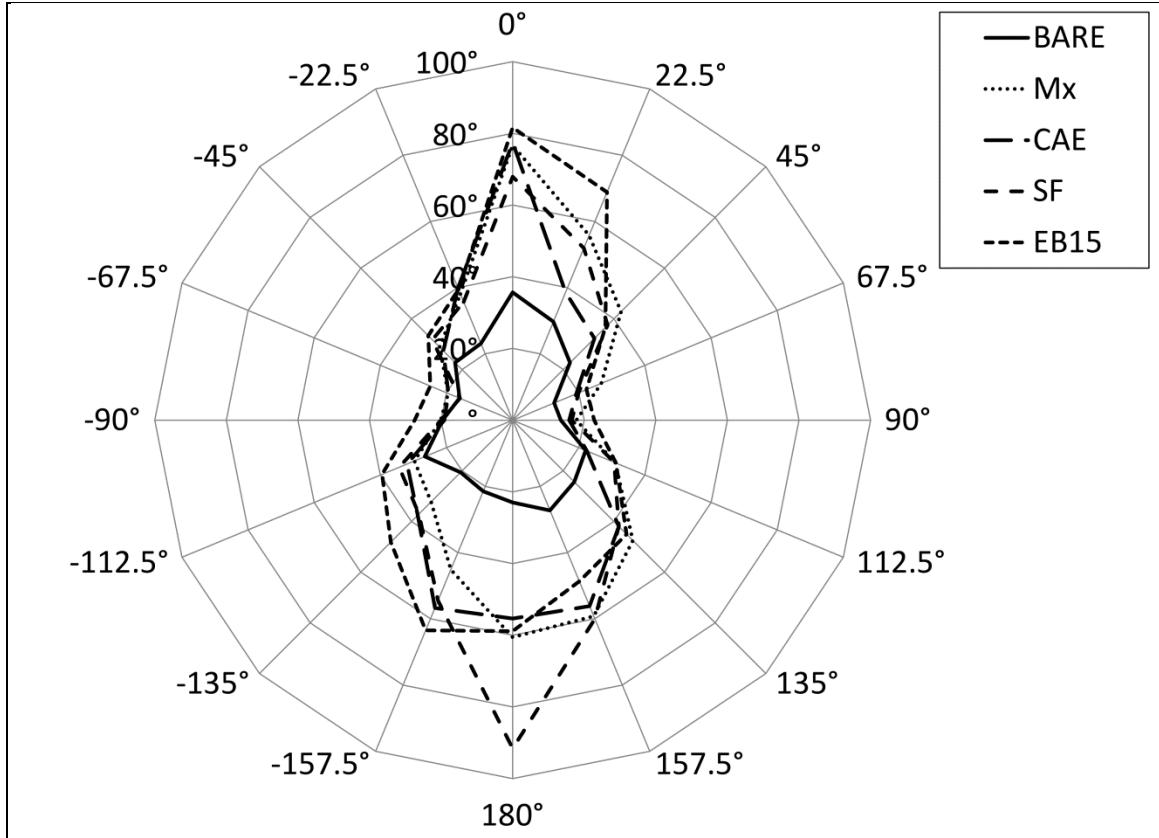


Figure 13. Percent of trials classified as reversals shown as a function of head condition and azimuth.

## 5. Summary and Conclusions

Four HPDs (Mx, CAE, SF, and EB15) were evaluated objectively for their attenuation of steady-state and impulsive noise. Their effects on auditory spatial perception were also assessed by measuring listener's ability to localize sounds while wearing the HPDs and comparing it to their performance without a HPD.

Measures of attenuation showed significant differences in the amount of attenuation provided by each of the HPDs. Three of the HPDs, the Mx, CAE, and SF, had a level-dependent filter designed to engage and protect against impulsive noise, but provide minimal attenuation of lower level steady-state noise. The CAE caused the least attenuation (greater than 20 dB) and the Mx had the most (25 dB). The fourth HPD, the EB15, was tested without the level-dependent electronics engaged and had 34 dB of attenuation. Analysis of the spectral envelope of this attenuation at one octave and one-third octave band resolutions suggests that the primary difference between the attenuation of the EB15 and that of the level-dependent HPDs is found in

the lower frequencies (less than 500 Hz). Among the level-dependent HPDs, the differences are in the higher frequencies, where the effects are most likely to be changes in spatial perception and mild effects on speech perception.

All HPDs provided at least 30 dB of attenuation of impulsive noise. There were significant differences between all of the HPDs; the EB15 had the most attenuation at 53 dB. However, it is unlikely that there is practical significance in the differences of the three level-dependent HPDs, as the range was 30 dB (SF) to 34 dB (Mx).

Measures of auditory localization with the HPDs revealed minor differences between them as compared with the bare head, consistent with their measured effects on attenuation. Specifically, of the HPDs localization was best with the CAE and worst for the EB15. Both the Mx and the SF had more attenuation of frequencies in the range above about 2 kHz than did the CAE and on average unsigned azimuth error was 2°–3° greater than that observed for the CAE. Since the EB15 was tested without its level-dependent features active, it is not surprising that its performance was the poorest. It is more surprising that this difference was quite minimal. Since the target signal was presented at 70 dB, it is likely that it was sufficiently audible to gain localization information. Because the spectral transfer function of the active device is not known, it is not possible to predict the device's active performance.

By coding localization errors to determine which can be explained by front-back reversals, it is possible to argue that reversals were the primary cause of the degradation of localization performance observed for the HPDs as compared with the bare head. It does seem that localization performance decreases as a function of increased attenuation; however, the differences in localization performance among the HPDs were small compared to that with the bare head. It is suggested that users may wish to choose hearing protection based on personal preference and comfort, with the understanding that there may be some tradeoffs in that they may have slightly higher auditory detection thresholds and may find it more difficult to localize sounds.

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34 (14 PDF 20 HC)	DIR USARL RDRL HR L ALLENDER P FRANASZCZUK C COSENZO		

**From:** (b) (6)  
**To:** (b) (6)  
**Cc:** (b) (6)  
**Subject:** Combat Arms earplug data  
**Date:** Tuesday, July 28, 2015 14:27:16  
**Attachments:** (b) (6)  
[I5101Combat Arms 4\\_0 Imp Resp\\_2014.1113.xlsx](#)  
[I5103Combat Arms 2\\_0 Imp Resp\\_2015.0724.xlsx](#)

---

Dear (b) (6),

As you have requested, I have reviewed our files for data comparing the 3M™ Combat Arms™ dual-ended (v2.0) and single-ended (v4.0) earplugs. I understand your concerns regarding the relative protectiveness of the two products in gunfire noise as well as their effects on situational awareness.

Along with this letter, I have attached IPIL (impulse peak insertion loss) test reports from our laboratory on both the v2.0 and v4.0 products. The testing was conducted per ANSI S12.42-2010 in the 3M Impulse Laboratory in Indianapolis. We have verified the results on an outdoor shooting range using an AR-15 rifle and determined that the IPIL values under those conditions equal or exceed the values found in our Impulse Laboratory. Within the precision of such testing the two products perform virtually the same for peak SPLs from 132 to 168 dB, values that cover the range of peak levels that would be anticipated for typical military rifles and handguns.

With respect to situational awareness, though studies have been conducted on each of the products individually, I have been unable to locate any studies that have compared the two products directly, either in our laboratory or in the literature. For both earplugs they have been shown to have a minimal effect of localization capabilities, but as would be expected since they do block some middle and high-frequency sounds, they do have limited effects on the ability to detect low-level sounds in those ranges, to a somewhat greater extent for the v4.0 than for the v2.0.

Perhaps of greater importance in comparing the two earplugs are the ergonomic features. Because of its single-ended design the v4.0 is easier to insert correctly for a good seal and consistent performance. So too, the v4.0 is easier to operate since it does not require removal and reinsertion to change from the open/weapon's fire mode to the closed/constant protection mode.

My associate (b) (6), will follow up with you in the near future to discuss these matters and provide additional information that you may require.

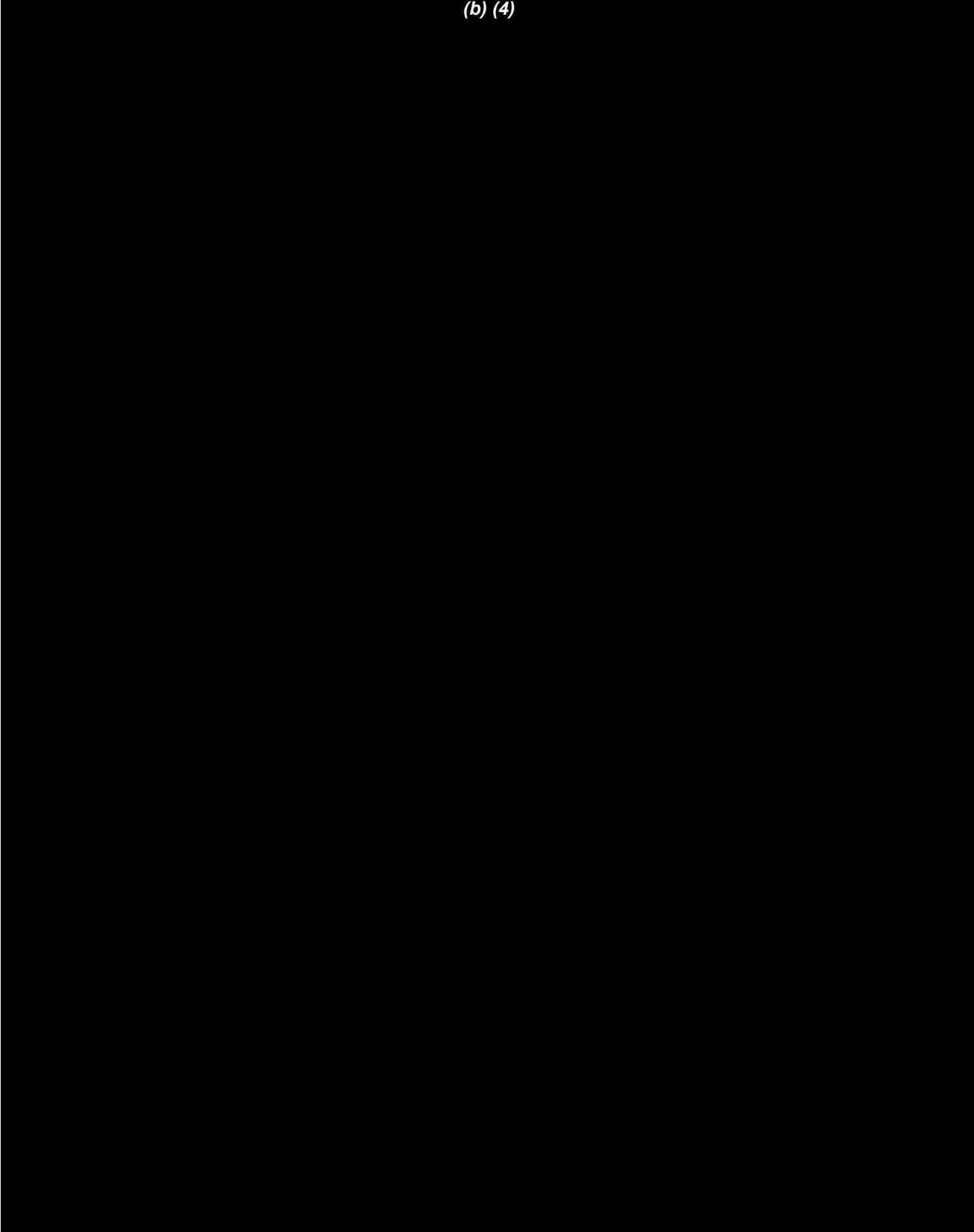
(b) (6)

(b) (6)

(b) (6)



**(b) (4)**



**E•A•RCAL IMPULSE PEAK ATTENUATION TEST REPORT**  
**PER ANSI S12.42-2010**

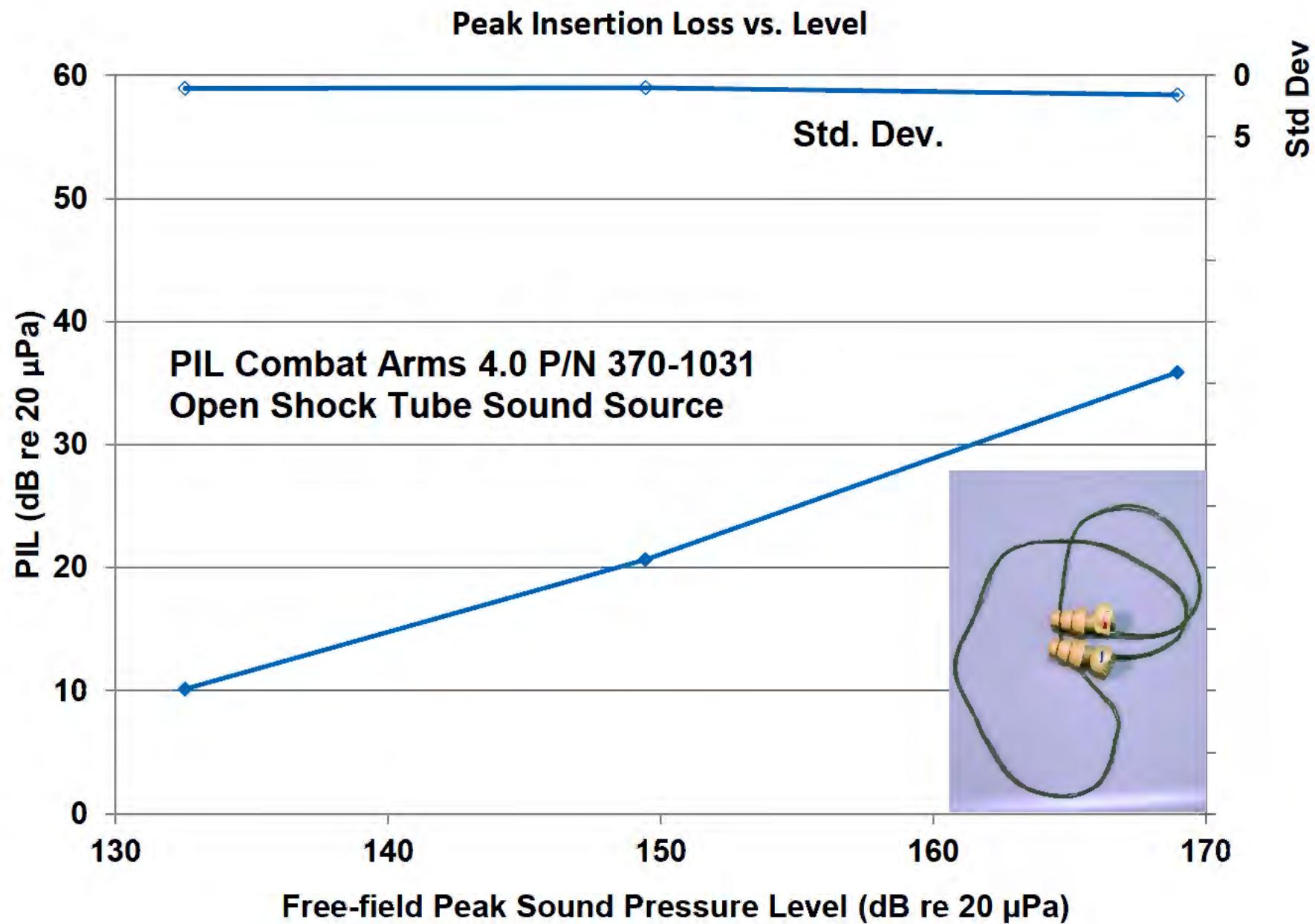
**DEVICE:** Combat Arms 4.0 P/N 370-1031  
**DEVICE TYPE:** Passive Level Dependent (Open)  
**MANUFACTURER:** 3M / Peltor  
**TEST DATE:** 08/28/2013 & 11/13/2014      **TEST ID:** I15101  
**SAMPLES** 5  
**BAND FORCE (N):** N/A  
**SOUND SOURCE** Shock tube w/2.15 m horn      **POSITION:** N/A  
**TEST FIXTURE:** ISL-B 3M

Test Level Peak level dB SPL	Peak Insertion Loss (PIL) (dB)	Standard Deviation (dB)
132	10.1	1.1
150	20.7	1.0
168	35.9	1.6

Performed by:

Reviewed by:

The user is solely responsible for utilizing these data and evaluating the 3M product to determine whether it is suitable for user's method of application. 3M makes no express or implied warranties of merchantability or fitness for a particular purpose. Data in this report may be cited and/or utilized by the customer as desired, including photocopying the entire report for distribution or incorporation into other reports. However, excerpts may not be distributed without the prior written permission of the 3M Personal Safety Division.



## Individual Protector Data

Page 3 of 4

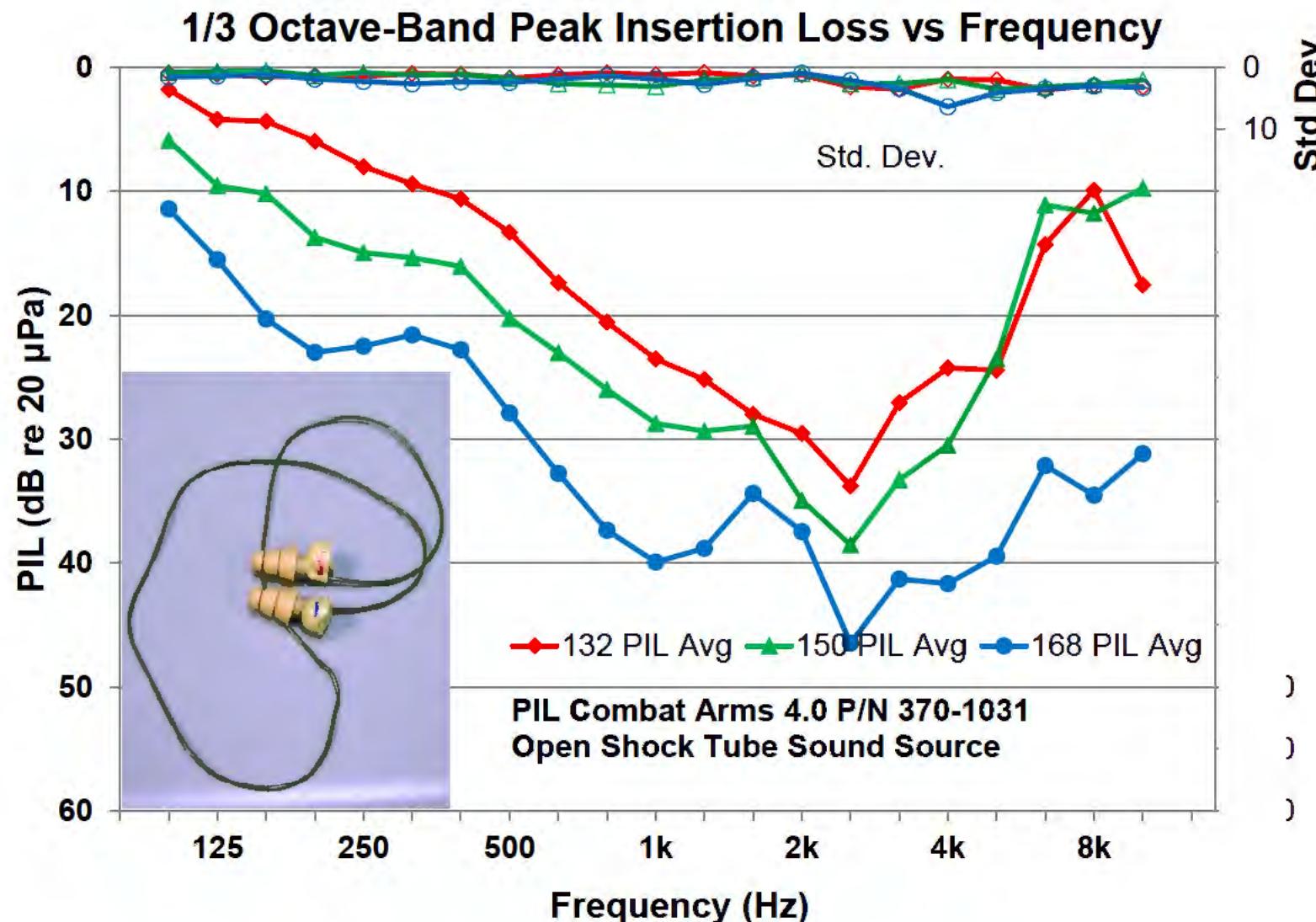
TEST ID: I15101      Device:      Combat Arms 4.0 P/N 370-1031

Date:      08/28/2013 & Samples:      5

Comments:

	132 dB Left PIL	132 dB Right PIL	150 dB Left PIL	150 dB Right PIL	168 dB Left PIL	168 dB Right PIL
Protector 1, Trial 1	8.2	10.1	20.5	21.0	37.3	33.9
Protector 1, Trial 2	11.8	12.9	20.5	21.1	36.9	34.9
Protector 2, Trial 1	10.3	9.9	19.4	18.8	37.7	34.2
Protector 2, Trial 2	9.5	10.3	20.6	19.8	36.0	33.8
Protector 3, Trial 1	10.5	10.3	22.6	22.3	37.7	35.3
Protector 3, Trial 2	9.5	10.0	21.3	20.7	38.4	36.6
Protector 4, Trial 1	10.0	10.3	21.4	21.2	34.3	35.4
Protector 4, Trial 2	8.6	10.6	19.2	19.0	37.2	32.4
Protector 5, Trial 1	8.8	9.8	20.6	20.6	36.8	35.7
Protector 5, Trial 2	10.0	11.5	21.3	21.1	37.0	36.0

PIL Combat Arms 4.0 P/N 370-1031 Shock Tube Open			
Test Level	132 dB	150 dB	168 dB
Overall Average Peak Insertion Loss (dB)	10	21	36
PIL Std. Dev.	1.1	1.0	1.6
Overall Average A-Duration (ms)	0.6	1.1	1.0
A-Duration Std. Dev.	0.38	0.07	0.02

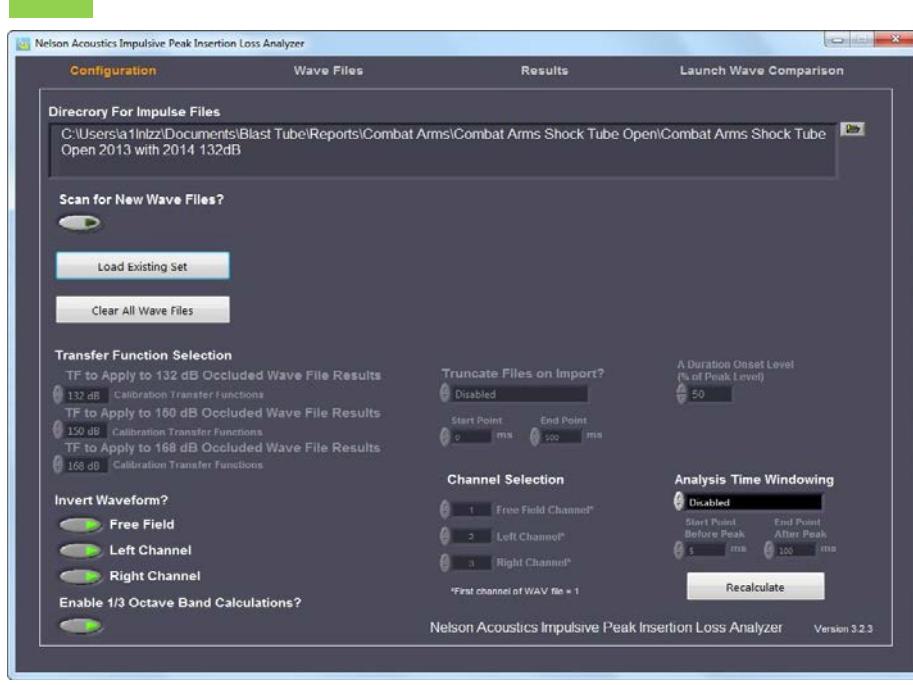


Combat Arms 4.0 P/N 370-1032  
Ptest,1 = Sample 1  
Ptest,2 = Sample 2  
Ptest,3 = Sample 3  
Ptest,4 = Sample 4  
Ptest,5 = Sample 5

Testing using Shock tube w/2.15 m horn in the original 3M Impulse Lab

Testing at Open Position

Testing for Elliott Berger and Dr. Bill Murphy (NIOSH)



	132 dB Left PIL	132 dB Right PIL	150 dB Left PIL	150 dB Right PIL	168 dB Left PIL	168 dB Right PIL
Protector 1, Trial 1	8.2	10.1	20.5	21.0	37.3	33.9
Protector 1, Trial 2	11.8	12.9	20.5	21.1	36.9	34.9
Protector 2, Trial 1	10.3	9.9	19.4	18.8	37.7	34.2
Protector 2, Trial 2	9.5	10.3	20.6	19.8	36.0	33.8
Protector 3, Trial 1	10.5	10.3	22.6	22.3	37.7	35.3
Protector 3, Trial 2	9.5	10.0	21.3	20.7	38.4	36.6
Protector 4, Trial 1	10.0	10.3	21.4	21.2	34.3	35.4
Protector 4, Trial 2	8.6	10.6	19.2	19.0	37.2	32.4
Protector 5, Trial 1	8.8	9.8	20.6	20.6	36.8	35.7
Protector 5, Trial 2	10.0	11.5	21.3	21.1	37.0	36.0

PIL Combat Arms 4.0 P/N 370-1031 Shock Tube Open		
Test Level	132 dB	150 dB
Overall Average Peak Insertion Loss (dB)	10	21
PIL Std. Dev.	1.1	1.0
Overall Average A-Duration (ms)	0.6	1.1
A-Duration Std. Dev.	0.38	0.07
	0.02	

	Left Estimated Unoccluded Peak Level [dB]	Left Measured Occluded Peak Level [dB]
Ptest,1,1,132	130.9	122.7
Ptest,1,2,132	132.9	121.1
Ptest,2,1,132	134.7	124.5
Ptest,2,2,132	135.2	125.6
Ptest,3,1,132	135.2	124.7
Ptest,3,2,132	134.4	124.9
Ptest,4,1,132	135.4	125.4
Ptest,4,2,132	131.1	122.5
Ptest,5,1,132	134.2	125.4
Ptest,5,2,132	135.1	125.1
Ptest,1,1,150	153.3	132.8
Ptest,1,2,150	153.8	133.3
Ptest,2,1,150	151.9	132.5
Ptest,2,2,150	152.9	132.3
Ptest,3,1,150	154.5	131.9
Ptest,3,2,150	153	131.7
Ptest,4,1,150	154	132.6
Ptest,4,2,150	152.3	133.1
Ptest,5,1,150	153.4	132.8
Ptest,5,2,150	153.6	132.3
Ptest,1,1,168	179.5	142.2
Ptest,1,2,168	179.3	142.4
Ptest,2,1,168	179	141.4
Ptest,2,2,168	179.3	143.4
Ptest,3,1,168	179.6	141.9
Ptest,3,2,168	179.9	141.5
Ptest,4,1,168	179	144.7
Ptest,4,2,168	179	141.7
Ptest,5,1,168	179.1	142.3
Ptest,5,2,168	179.7	142.7

Right Estimated Unoccluded Peak Level [dB]	Right Measured Occluded Peak Level [dB]	Free Field Level [dB]
133.7	123.5	131
134.6	121.6	132.6
135.3	125.4	132.9
136.2	126	133.3
135.6	125.3	133.2
135.2	125.2	133.7
135.8	125.5	132.8
133.4	122.8	131
135.7	125.9	132.6
136.7	125.2	132.5
154.5	133.5	149.2
155.4	134.3	149.3
152.7	133.9	149.9
154.1	134.3	149.6
155.9	133.5	150.1
154.3	133.6	148.7
155.4	134.2	150
153.3	134.3	149.6
154.8	134.1	148.7
155.2	134.1	149.4
179.7	145.8	169
179.6	144.7	169.1
179.3	145.2	168.9
179.7	145.9	169.1
179.9	144.6	169.3
180	143.4	169
179.4	144	168.7
179.2	146.7	168.3
179.4	143.7	169.3
179.9	143.9	168.8

Free Field A-Duration [ms]	Free Field B-Duration [ms]	Free Field C-Duration [ms]	Free Field D-Duration [ms]
0.33	46.26	2.26	10.32
0.43	40.89	2.24	9.37
0.29	33.41	1.66	6.46
1.18	31.89	1.75	6.46
0.47	38.83	3.82	8.75
1.19	44.86	2.99	8.24
0.29	31.55	2.36	6.09
0.26	42.98	2.43	10.19
0.45	31.1	2.24	5.79
1.04	49.78	2.29	10.71
1.23	19.6	0.97	3.13
1.03	14.12	0.94	2.84
1.04	12.48	0.91	2.56
1.12	15.36	0.87	2.54
1.2	12.07	0.91	2.37
1.22	17.26	0.92	3.22
1.15	10.7	0.9	2.29
1.17	18.2	0.88	4.1
1.15	15.74	0.93	2.67
1.16	13.36	0.9	2.51
1	4.73	0.81	1.23
0.96	5.26	0.8	1.27
0.96	5.27	0.79	1.41
0.95	4.37	0.77	1.36
0.99	5.17	0.75	1.36
1	5.34	0.91	1.25
0.96	5.17	0.76	1.23
1	5.44	0.91	1.39
0.96	4.06	0.77	1.4
0.95	5.11	0.8	1.23



	132	132	132	132	132
	Cal	Cal	Cal	Cal	Cal
	1, FF	1, L	1, R	2, FF	2, L
20	76.75	76.8	76.95	76.25	76.78
25	84.93	85.31	85.7	87.48	87.42
31.5	93.98	93.87	94.35	98.6	98.36
40	102.59	102.51	102.94	109.88	109.74
50	101.94	101.16	102.06	110.87	110.33
63	100.86	100.92	101.26	107.83	107.46
80	108.52	108.56	108.97	109.11	109.82
100	110.17	109.19	109.83	107.24	106.56
125	108.97	109.23	109.58	101.33	102.44
160	105.65	104.91	106.13	109.51	108.22
200	105.87	104.53	106.01	104.99	104.19
250	111.52	109.66	111.35	116.05	114.17
315	115.11	112.07	114.71	116.65	113.94
400	107.23	103.37	106.82	109.63	107.05
500	110.65	108.96	110.19	115.97	114.18
630	117.01	119.04	119.74	117.94	119.63
800	117.45	122.32	122.68	118.67	122.59
1000	115.6	119.57	121.21	118	122.38
1250	112.78	115.76	116.99	113.21	116.56
1600	109.73	115.83	117.22	107.51	112.83
2000	110.67	121.62	122.43	106.13	120.32
2500	105.42	121.68	120.36	111.95	126.1
3150	108.31	123.72	124.08	106.07	123.62
4000	115.08	124.69	127.18	110.5	125.79
5000	119.93	125.73	127.4	114	123.07
6300	114.57	118.34	120.1	115.72	123.62
8000	113.78	110.06	111.05	115.04	116.02
10000	113.33	110.74	109.15	114.12	113.74
12500	109	112.49	111.24	115.04	113.78
16000	110.69	112.13	110.04	112.45	111.82
20000	109.46	108.84	108.89	111.05	110.49
25000	106.59	104.88	103.42	109.61	108.06
31500	106.35	100.69	99.74	111.31	102.09
40000	106.9	95.39	97.4	108.46	101.4

132	132	132	132	132	132
Cal	Cal	Cal	Cal	Cal	Cal
2, R	3, FF	3, L	3, R	4, FF	4, L
77.07	79.45	79.46	79.66	77.8	77.5
87.77	86.78	86.37	86.91	86.47	86.24
98.86	98.17	98	98.45	97.99	98.13
110.22	108.88	108.82	109.25	109.99	109.83
111.07	110.41	110.04	110.68	111.35	111.42
108.03	105.85	105.43	106.03	108.48	108.11
109.62	105.37	105.89	105.84	111.35	111.63
107.42	105.72	104.5	105.59	110.14	109.56
102.52	111.25	110.99	111.62	105.52	105.65
109.59	114.46	113.32	114.54	110.68	109.36
105.24	109.91	108.35	110.01	106.09	104.1
115.86	106.8	104.84	106.63	115.01	112.83
116.31	116.94	114.03	116.6	115.33	112.5
109.96	109.94	107.05	109.97	111.46	108.39
115.39	111.33	108.64	110.76	111.02	109.15
120.3	111.38	112.89	113.92	110.21	110.85
123.5	112.68	118.51	118.77	107.65	111.64
123.67	120.12	125.96	127	115.91	120.07
118.35	113.94	116.93	118.13	115.23	118.29
113.98	107.88	113.11	114.59	107.77	114
119.43	107.96	119.17	118.61	112.99	123.46
126.41	107.9	120.43	118.71	110.5	124.61
123.33	103	121.56	121.62	102.56	122.55
124.12	109.22	125	123.05	110.12	121.1
123.97	116.7	123.41	121.18	117.97	120.83
120.21	117.6	120.41	120.21	116.79	118.63
116.74	114.28	114.35	114.74	110.89	114.92
112.83	117.22	112.69	112.57	113.67	111.34
117.15	112.46	114.11	115.74	110.25	113.78
112.85	111.08	109.58	110.74	111.41	109.85
111.23	109.33	108.77	111.99	110.32	107.86
109.28	110.94	108.25	106.88	109.12	107.02
104.7	110.09	100.67	103.35	107.44	101.44
101.1	108.64	99.68	100.6	108.92	98.14

132	132	132	132	132	132
Cal	Cal	Cal	Cal	Cal	Cal
4, R	5, FF	5, L	5, R	6, FF	6, L
77.97	77.46	77.77	77.84	78.16	78.19
86.69	84.87	85.4	85.46	88.16	88
98.46	97.45	97.19	97.75	98.12	97.79
110.32	109.35	109.44	109.79	110.25	110.35
111.8	109.25	108.48	109.37	110.35	109.56
108.68	107.7	107.54	107.99	109.55	109.44
111.74	109.37	109.5	109.87	112.62	112.88
110.35	109.59	108.24	109.48	112.98	111.9
106.05	108.04	108.33	108.71	107.58	107.85
110.75	113.61	112.19	113.71	106.03	104.64
106.08	110.06	108.51	110.16	104.73	103.33
114.81	113.89	112.11	113.74	111.06	109.12
114.92	114.38	111.61	114.04	112.57	109.61
111.54	107.9	105.06	107.9	109.17	104.96
111.27	113.14	111.5	112.41	109.29	107.99
110.93	110.88	112.08	112.89	108.01	108.95
112.82	109.12	117.01	116.78	112.07	118.18
121.77	118.31	122.86	124.29	119.24	124.56
119.52	115.47	118.4	119.94	115.74	119.06
115.57	108.78	114.78	113.42	100.83	106.49
124.55	110.17	121.66	122.45	106.28	115.82
123.07	108.21	122.55	123	110.62	121.91
123.59	110.58	121.39	123.08	108.53	122.79
122.26	113.64	126.91	127.25	112.4	124.58
122.79	116.67	122.27	124.05	115.58	122.32
114.5	116.99	123.8	119.77	114.56	121.02
114.76	112.39	113.39	114.11	114.49	110.81
112.34	113.96	111.67	111.78	112.66	109.38
114.11	116.65	115.19	114.6	111.4	111.97
113.9	113.38	112.11	111.71	111.79	110.77
110.87	110.71	110.98	114.36	108.7	109.64
109.23	110.57	110.27	109.14	110.9	110.96
103.91	112.36	102.56	103.48	108.77	101.85
98.92	110.78	99.23	99.07	109.45	102.42

132	150	150	150	150	150
Cal	Cal	Cal	Cal	Cal	Cal
6, R	1, FF	1, L	1, R	2, FF	2, L
78.5	84.49	84.3	84.56	87.84	87.61
88.5	94.77	95.04	95.21	96.27	96.43
98.39	105.09	105.34	105.54	106.72	106.83
110.7	115.27	115.48	115.73	118.53	118.84
110.45	117.01	116.66	117.24	118.57	118.73
109.88	117.07	117.1	117.47	114.67	114.81
113.16	123.19	122.99	123.46	122.4	122.06
112.99	124.57	123.03	124.4	124.92	123.74
108.12	124.79	125.08	125.45	126.24	126.12
106.03	129.29	128.05	129.22	129.37	128.13
104.83	126.98	125.69	127.06	125.59	125.01
110.89	130.23	128.16	129.85	128.5	126.35
112.24	132.36	129.3	132.17	133.38	130.08
108.65	130.1	125.73	129.75	130.26	126.68
109.62	128.02	126.32	127.29	131.14	129.67
109.74	130.68	131.35	133.26	129.19	129.83
118.91	123.24	129.39	131.19	122.14	129.29
125.77	125.59	130.7	130.96	126.15	129.72
120.3	130.07	132.78	134.59	127.64	131.29
107.98	119.35	124	124.71	122.55	127.96
116.8	126.11	137.78	138.64	123.51	135.41
121.44	125.51	138.96	139.55	123.44	136.81
121.48	126.31	141.26	141.91	121.12	138.02
126.13	122.53	135.27	137.23	120.6	136.69
123.1	120.91	131.48	131.82	122.31	132.02
118.52	121.68	126.53	125.34	122.52	125.57
113.66	122.08	123.79	122.74	125.11	123.05
111.61	124.92	121.05	119.47	125.13	122.1
114.2	122.32	121.32	123.15	120.16	123.87
107.88	121.6	122.17	118.31	121.14	121.8
104.29	120.15	117.18	117.9	117.82	118.7
105.54	117.95	117.97	111.84	118.23	116.72
103.55	118.7	112.34	111.87	119.28	109.8
101.57	117.71	109.33	108.57	119.86	109.64

150	150	150	150	150	150
Cal	Cal	Cal	Cal	Cal	Cal
2, R	3, FF	3, L	3, R	4, FF	4, L
87.91	87.16	86.84	87.23	86.27	85.65
96.66	96.06	96.02	96.32	95.09	94.81
107.1	104.67	104.52	104.88	103.6	103.77
119.03	113.99	114.11	114.4	112.29	112.49
119.05	115.25	115.59	115.85	115.74	115.51
115.08	116.34	116.3	116.64	117.1	117.08
122.56	123	122.7	123.22	122.94	122.67
124.99	124.71	123.07	124.47	124.06	122.46
126.35	125.11	124.91	125.51	124.66	124.71
129.29	129.53	127.89	129.25	129.66	128.06
126.01	126.33	124.4	126.06	126.39	124.68
128.36	128.58	127.37	128.98	129.55	128.4
132.86	134.03	130.4	133.31	133.86	130.2
129.97	133.29	129.06	132.43	132.66	128.35
130.52	130.7	128.55	129.86	130.51	128.39
131.15	129.3	130.94	132.43	128.71	129.93
131.9	123.86	131.15	131.56	124.05	131.47
129.55	126.46	131.97	132.08	126.52	131.96
131.27	127.21	130.46	131.44	127.06	130.13
128.42	125.18	129.58	129.71	125.32	130.16
135.35	124.05	136.32	136.97	120.3	130.71
136.9	123.44	136.99	137.24	122.28	135.22
137.49	117.96	135.77	135.5	119.67	134.66
136.4	121	139.19	137.85	122.77	132.79
131.69	121.04	130.94	134.1	123.16	130.41
125.87	120.29	125.94	126.1	118.25	123.14
124.03	121.77	125.1	123.92	122.5	124.03
119.37	121.82	121.32	121.68	126.36	121.29
122.29	122.33	121.32	123.24	123	120.1
121.35	120.51	120.68	120.06	122.27	120.59
116.85	121.15	120.15	118.43	118.99	120.17
115.19	119.2	118.4	117.89	117.41	117.78
111.17	115.72	111.19	110.95	118.24	113.99
109.76	117.05	108.75	106.16	116.79	106.87

150	150	150	150	150	150
Cal	Cal	Cal	Cal	Cal	Cal
4, R	5, FF	5, L	5, R	6, FF	6, L
86.06	87.07	86.95	87.27	88.81	88.53
95.21	94.9	95.01	95.23	94.61	95.1
104.02	104.67	104.8	105.05	106.65	106.39
112.73	114.38	114.52	114.8	120.06	120.24
116.03	116.62	116.15	116.78	118.08	118.66
117.39	118.1	118.24	118.6	115.72	115.81
123.17	123.08	123.7	123.6	122.53	122.26
123.85	123.69	122.81	123.8	123.38	122.75
125.15	124.86	124.31	124.9	124.89	125.15
129.4	129.33	128.09	129.27	129.76	128.23
126.25	125.22	124.93	125.85	126.84	125.15
129.94	128.11	125.85	127.69	131.81	130.37
133.13	132.24	129.09	131.95	134.5	130.93
131.82	130.23	126.88	129.91	134.09	129.89
129.63	130.57	129.37	130.03	130.41	128.48
131.52	128.66	129.62	131.18	129.42	129.6
130.31	121.63	129.02	130.43	122.21	130.54
132	127.41	133.64	132.87	125.76	128.28
131.72	127.82	130.54	132.43	129.81	133.29
130.55	127.17	131.68	132.59	123.1	128.53
131.2	126.01	136.5	137.54	123.03	134.96
135.68	125.01	138.7	139.11	123.11	135.89
135.25	120.57	138.01	137.44	117.48	138.46
133.8	122.26	136.64	137.14	117.07	133.79
131.67	123.49	131.39	134.16	122.56	130.49
125.15	119.4	124.25	125.94	119.69	125.03
124.69	121.89	122.85	121.96	124.35	124.66
119.03	120.27	121.29	120.62	126.74	122.11
124.48	124.97	125.04	124.06	122.57	121.25
120.05	124.15	121.58	119.22	121.51	123.63
115.72	121.25	117.1	121.24	121.16	118.49
114.12	120.44	116.81	111.76	118.65	116.62
112.79	118.22	113.58	111.22	116.33	110.86
105.29	116.96	109.79	106.38	117.48	108.32

150	168	168	168	168	168
Cal	Cal	Cal	Cal	Cal	Cal
6, R	1, FF	1, L	1, R	2, FF	2, L
88.77	101.01	101.52	102.41	97.65	98.97
95.21	108.9	105.88	106.37	108.48	105.78
106.82	118.34	117.43	117.66	118.49	116.79
120.51	127.42	127.21	127.63	127.38	127.43
118.78	129.18	128.81	129.44	127.09	128.57
116.19	131.84	132.31	132.92	131.9	132.2
122.75	139.78	140.02	140.28	139.7	140.18
123.73	140.5	140.15	141.4	141.34	140.48
125.46	141.91	143	143.33	141.82	142.53
129.55	142.74	141.98	143.41	142.66	142.24
126.7	142.73	143.25	144.22	144.55	144.11
132.05	147.49	146.47	148.25	147.32	146.62
133.63	149.39	147.34	149.93	150.06	147.4
133.18	150.89	148.01	150.77	151.08	148.01
129.72	148.64	148.7	149.35	149.02	148.53
130.63	148.38	150.61	152.17	148.53	150.74
130.55	143.89	151.53	152.63	142.77	149.66
130.03	145.17	152.27	152.51	145.51	151.65
134.28	147.48	152.7	153.09	147.44	153.19
128.16	148.89	154.75	153.78	146.65	155.89
136.03	147	160.15	159.96	147	160.12
136.48	147.38	164.75	164.42	147.57	165.18
138.22	146.19	163.22	164.82	146.6	163.47
134.46	143.87	162.48	162.34	144.13	162.77
133.3	146.72	157.9	158.46	147.51	158.1
125.62	146.52	151.89	153.06	147.2	151.84
124.53	147.68	147.4	147.41	147.91	147.57
119.14	148.07	147.73	145.26	147.86	148.09
119.87	146.76	150.11	149.88	147.11	150.06
118.62	146.96	146.92	147.89	147.15	147.02
114.9	147.62	145.38	146.13	147.36	145.3
114.57	144.58	145.18	145.23	146.48	145.3
111.21	147.58	139.85	140.09	147.16	139.97
106.71	147.27	139.29	140.74	147.31	138.91

168	168	168	168	168	168
Cal	Cal	Cal	Cal	Cal	Cal
2, R	3, FF	3, L	3, R	4, FF	4, L
99.33	99.34	101.56	102.19	100.84	101.22
105.85	109.03	105.45	105.44	108.92	105.67
117.07	117.72	116.63	116.81	118.43	117.64
127.8	126.96	127.31	127.61	127.86	127.67
128.85	128.93	129.57	130.02	129.11	128.75
132.59	132.01	132.41	132.99	131.86	132.35
140.54	138.99	139.7	139.92	139.72	139.99
141.83	140.69	140.31	141.53	140.28	140.08
142.93	141.94	142.41	143.06	141.85	142.99
143.51	142.69	142.26	143.51	142.62	142.04
145.51	144.48	144.06	145.45	142.31	142.91
148.25	147.31	146.64	148.25	146.52	145.9
150.17	149.94	147.28	150.08	149.94	147.32
150.98	150.63	147.35	150.54	151.1	147.87
149.47	149.31	148.44	149.53	149.28	148.65
152.12	148.35	150.68	152.16	148.3	150.51
151.94	141.38	150.04	150.79	142.14	149.3
151.74	145.08	151.97	152.14	145.31	151.61
153.54	146.91	152.43	153.31	147.17	152.73
155.97	148.39	154.39	154.99	147.4	155.18
159.86	146.36	159.82	159.87	146.97	159.96
164.8	147.6	164.54	164.28	147.3	164.86
165.3	148.36	165.65	166.47	147.25	165.17
162.41	144	162.7	162.62	144.49	163.12
159.03	146.94	157.55	158.18	147.52	157.95
152.7	146.98	151.51	152.58	146.04	149.03
147.68	147.88	147.87	147.92	148.66	148.21
146.1	147.29	148.03	144.79	147.31	147.94
149.2	147.21	149.5	148.26	147.33	149.03
147.96	147.42	147.23	147.24	147.51	147.49
145.91	147.03	145.52	146.11	147.56	144.94
144.95	147.21	144.59	145.82	147.5	142.74
139.68	146.96	139.25	139.91	147.46	139.33
140.52	146.54	138.9	140.53	146.68	138.93

168	168	168	168	168	168
Cal	Cal	Cal	Cal	Cal	Cal
4, R	5, FF	5, L	5, R	6, FF	6, L
101.55	99.28	100.3	100.83	100.98	102.08
105.93	105.9	107.07	107.4	108.31	106.44
117.88	118.01	116.05	116.42	118.17	117.05
128.1	127.14	126.95	127.38	126.96	126.78
129.37	128.12	129.14	129.5	128.76	128.14
132.9	131.8	132.24	132.83	132.06	132.52
140.26	139.49	139.63	140.07	138.95	139.75
141.23	140.05	139.92	141.04	140.5	140.26
143.27	141.85	143.08	143.31	141.98	142.52
143.37	142.78	142.14	143.5	142.71	142.44
143.82	141.41	142.22	143.05	144.46	144.21
147.52	147.31	146.56	148.21	146.59	146.21
150.07	149.93	147.27	150.03	149.99	147.61
150.96	150.69	147.45	150.57	149.73	145.99
149.6	149.21	148.42	149.45	148.78	148.32
151.91	148.59	150.89	152.32	148.73	150.6
151.35	142.15	149.41	151.4	143.84	151.98
151.81	145.21	151.64	151.88	145.54	151.74
153.41	147.08	152.7	153.39	146.98	152.82
155.5	147.85	155.05	155.45	146.06	155.95
159.82	147.04	160.1	159.99	147.02	159.94
164.45	147.47	164.68	164.48	147.35	164.49
165.06	147.75	165.41	165.53	147.07	164.43
162.6	143.99	163.15	162.74	144.03	163.03
158.95	147.25	157.7	158.68	146.77	157.62
151.76	147	150.17	150.43	147.33	151.26
147.46	147.94	147.81	147.31	148.37	147.85
145.08	147.99	147.66	145.53	147.45	147.88
149.57	146.53	149.94	150	145.58	148.79
147.71	147.09	147.12	147.9	147.26	146.88
146.31	147.47	145.38	146.12	147.52	145.19
145.43	145.56	145.15	144.05	146.46	145.33
139.13	147.46	139.74	140.06	147.4	139.77
140.37	147.32	139.53	141.25	147.38	139.16

168	132	132	132	132	132
Cal	Test	Test	Test	Test	Test
6, R	1,1, FF	1,1, L	1,1, R	1,1, Est Open L	1,1, Est Open R
102.8	79.56	78.21	77.95	79.22	79.77
106.82	85.57	85.61	85.83	86.11	86.26
117.32	97.3	96.95	97.19	97.56	97.81
127.08	109.62	108.7	109.25	109.61	110.02
128.84	109.24	110.4	110.91	109.58	109.79
133.08	107.59	106.37	107.11	107.42	107.9
139.9	109.27	108.24	108.01	109.76	109.87
141.44	107.81	105.91	107.17	106.21	107.63
143.13	103.95	101.63	102.16	104.12	104.27
143.61	111.7	106.49	108.38	110.36	111.76
145.52	107.63	100.61	102.03	106.52	107.82
147.68	108.3	100.35	101.99	106.27	108.12
150.33	113.32	100.61	104.15	110.28	113.07
149.65	113.77	100.35	103.38	110.5	113.7
148.89	115.95	102	104.09	114.42	115.9
151.84	112.43	97.52	98.12	113.53	114.34
151.95	111.73	95.97	96.66	115.54	116.32
151.81	109.22	92.61	93.94	113.81	115.04
153.07	114.86	92.87	94.08	118.05	118.92
155.92	113.66	89.83	91.47	119.38	119.41
159.49	107.58	88.23	87.8	116.96	116.87
164.38	108.89	84.87	85.99	122.56	122.62
166	108.42	88.68	90.87	118.01	121.83
162.82	107.74	89.58	91.11	115.38	116.89
158.36	112.83	87.92	88.45	114.35	115.2
151.67	118.4	100.96	104.71	118.62	115.96
147.16	110.24	93.02	94.57	102.92	103.78
145.7	109.27	83.51	88.29	104.71	105.65
151.13	111.98	77.78	79.45	106.52	108.32
147.95	111.43	66.93	64.88	103.32	102.64
146.1	110.85	67.43	61.51	103.55	99.71
145.42	108.08	54.83	61.8	100.35	99.91
139.73	112.24	54.4	53.29	95.35	96.16
140.79	108.06	57.77	58.67	92.39	92.92

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
1,2, FF	1,2, L	1,2, R	1,2, Est Open L	1,2, Est Open R	2,1, FF
77.59	80.53	75.65	76.84	77.45	80.05
87.04	88.33	85.64	87.02	87.44	87.96
95.92	97.03	95.93	96.02	96.29	98.9
107.16	106.8	106.86	107.16	107.56	110.11
106.23	106.82	107.19	106.48	106.74	112.51
101.48	98.87	99.49	101.3	101.79	109.71
105.26	102.72	103.22	105.47	105.66	113.2
112.56	108.39	109.48	110.78	112.29	113.9
115	112.23	112.35	115.68	115.79	110.05
114.16	108.16	109.83	112.71	114.23	105.76
106.86	99.99	101.56	106.24	107.31	104.26
112.63	101.19	103.08	110.46	112.41	117.11
109.09	97.38	101.01	106.33	108.84	117.63
107.13	95.17	98.24	104.28	107.49	113.05
104.89	90.67	90.61	102.27	104.55	110.1
111.4	95.99	96.77	113.86	114.48	104.47
115.77	99.27	99.5	120.01	120.85	112.59
117.82	99.06	100.25	123.09	124.17	118.48
114.92	91.9	92.37	117.88	119.35	115.74
104.97	79.95	79.81	111.14	109.93	104.94
106.11	88.97	85.32	115.54	115.75	106.51
105.93	85.47	85.9	116.13	117.07	107.54
105.01	89.6	92.85	113.47	118.09	106.99
109.42	91.54	96.13	118.02	120.35	105.87
118.17	95.24	95.4	118.29	118.41	112.73
119.97	109.39	104.82	125.27	119.84	118.67
114.76	99.38	97.3	106.02	107.71	112.8
112.16	87.73	84.49	102.61	103.89	112.42
114.74	80.61	82.97	109.55	112.5	112.59
109	71.11	77.81	104.86	104.14	108.78
111.94	71.03	71.92	106.7	107.36	109.31
109.13	57.23	61.63	104.48	101.74	111.58
107.21	55.25	57.44	95.44	97.99	105.55
108.53	56.15	54.03	94.93	94.36	107.03

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
2,1, L	2,1, R	2,1, Est Open L	2,1, Est Open R	2,2, FF	2,2, L
76.42	77.21	80.12	80.38	80.77	77.95
82.58	83.18	87.73	88.25	86.23	85.63
96.24	96.58	98.9	99.3	97.9	97.05
109.42	109.89	110.23	110.56	110.29	108.91
110.93	111.81	112.33	112.85	110.82	111.51
107.69	108.67	109.6	110.04	108.55	107.89
111.25	111.68	113.38	113.71	112.17	110.74
110.11	110.94	112.83	113.86	112.53	109.51
104.87	105.5	110.23	110.63	109.9	105.6
100.41	102.8	104.11	105.66	112.5	107.84
97.07	99.29	103.03	104.37	110.13	104.22
105.58	107.92	115.09	116.92	117.9	108.44
104.78	107.66	114.85	117.2	118.69	105.77
99.1	101.78	109.79	112.99	111.42	97.09
93.3	95.53	107.6	109.58	114.13	98.05
87.94	89.16	105.5	105.32	110.17	94.99
98.39	99.16	117.78	118.62	109.28	95.01
99.74	100.78	123.31	124.15	115.56	97.26
93.85	95.33	118.96	120.02	114.15	91.99
83.94	82.69	110.78	109.53	108.33	86.27
87.57	87.63	116.89	117.41	110.87	92.55
88.2	85.88	118.6	118.49	107.73	85.01
89.41	90.64	114.65	119.01	108.99	92.65
86.59	89.2	112.2	115.85	109.22	91.49
91.99	90.53	115.03	115.79	116.1	92.3
102.66	97.96	121.7	116.49	114.64	102.53
95.11	94.16	103.44	107.06	109.97	94.08
88.12	88.53	104.22	105.95	113.61	90.03
78.63	77.11	106.48	108.82	115.17	80.1
65.18	69.26	103.65	103.16	111.48	65.63
69.2	69.2	101.61	102.62	112.24	67.2
60.22	60.55	100.63	103.29	110.5	59.51
54.96	52.32	92.06	97.46	110.22	55.2
57.57	58.58	89.43	94.33	109.77	57.53

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
2,2, R	2,2, Est Open L	2,2, Est Open R	3,1, FF	3,1, L	3,1, R
78.9	80.47	80.96	79.7	79.07	79.48
86.46	86.72	86.87	86.53	76.07	76.16
97.49	98.11	98.39	98.08	93.24	93.94
109.43	110.22	110.66	110.59	108.46	108.92
112.05	111.04	111.32	111.43	111.68	112.41
108.39	108.4	108.88	109.45	108.35	108.98
110.51	112.41	112.69	113.73	111.6	111.5
110.52	110.89	112.37	114.72	111.16	112.18
105.41	109.62	110.34	111.06	106.31	106.46
108.6	111.38	112.65	107.83	99.97	101.59
104.73	108.78	110.26	103.06	95.65	97.47
109.49	116.01	117.7	111.34	100.8	102.55
108.58	115.83	118.24	118.77	104.96	108.89
101.48	108.93	111.72	112.69	96.97	102.71
97.92	112.08	113.48	114.94	100.5	100.7
93.73	110.97	111.57	119.12	102.47	103.19
94.81	114.87	115.63	117.7	99.25	100.2
97.27	120.2	120.97	119.05	99.33	100.09
92.95	117.31	118.7	120.32	97.37	99.03
85.67	114.11	113.42	107.5	85.15	86.57
91	121.62	122.29	108.19	91.16	89.58
86.12	120.66	120.28	108.8	92	89.76
96.15	118.05	121.37	109.62	90.79	94.28
96.55	118.49	120.45	112.23	93.93	95.24
93.99	117.17	120.24	112.93	91	91.22
102.64	118.78	114.99	110.61	97.97	99.04
96.98	104.21	105.74	112.83	99.53	100.11
85.43	102.77	105.71	112.45	90.72	88.97
76.37	107.14	110.37	111.55	76.21	76.67
73.41	104	103.44	108.84	67.96	73.18
68.44	104.32	106.41	109.11	67.66	61.52
57.97	101.64	102.34	108.57	55.85	58.15
55.64	95.09	98.8	112.31	55.17	51.95
53.96	96.18	95.35	110.05	57.18	62.61

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
3,1, Est Open L	3,1, Est Open R	3,2, FF	3,2, L	3,2, R	3,2, Est Open L
79.19	79.83	78.69	74.9	76.93	78.09
86.98	87.15	87.46	79.64	78.37	87.76
98.29	98.57	98.76	95.27	95.55	98.8
110.5	110.96	110.16	109.2	109.64	110.05
111.62	111.92	112.46	111.21	111.97	112.37
109.31	109.78	109.71	107.63	108.03	109.58
114.02	114.26	113.14	111.88	111.67	113.93
113.27	114.56	113.45	111.16	112.3	111.86
111.32	111.72	112.96	109.26	108.79	113.58
106.58	107.82	110.8	102.88	104.42	109.46
102.39	103.39	106.3	96.74	97.73	105.36
109.16	111.08	106.15	95.71	97.32	104.02
115.91	118.35	115.55	101.98	106.28	112.67
108.71	111.82	113.33	96.95	100.21	108.65
112.17	114.75	110.35	97.8	98.06	107.9
121.13	121.4	114.89	98.9	98.93	116.99
120.75	122	114.39	97.28	97.19	118.03
123.97	125.43	112.7	93.53	94.06	117.62
123.34	124.77	118.03	95.13	96.37	120.85
112.59	111.98	116.88	93.34	95.56	121.58
118.92	119.53	107.59	87.21	89.58	118.21
122.19	122.66	110.79	87.21	85.99	122.81
119.96	124.28	111.71	93.5	93.76	119.53
119.01	120.99	108.86	93.88	97.02	117.11
115.92	116.52	112.76	87.61	90.21	114.47
113.33	110.05	110.49	93.8	98.79	111.61
103.41	108.95	111.85	94.31	95.1	105.42
102.47	104.35	112.05	89.31	84	107.36
103.81	105.94	114.54	74.59	76.39	102.19
103.13	103.26	109.77	63.43	74.55	103.48
100.58	103.11	109.25	65.4	62.18	101.17
100.95	103.11	111.7	57.95	59.58	99.23
96.62	99.32	108.89	55.64	52.04	95.71
91.65	94.78	112.53	57.49	65.68	94.72

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
3,2, Est Open R	4,1, FF	4,1, L	4,1, R	4,1, Est Open L	4,1, Est Open R
78.74	79.39	78.01	77.97	79.79	79.99
88.01	88.01	82.6	82.05	88.13	88.46
99.17	99.06	95.9	96.09	98.97	99.41
110.46	110.55	109.38	109.68	110.54	110.95
112.84	112.54	110.06	110.64	112.2	112.82
110.02	109.63	108.86	109.16	109.5	109.96
113.85	113.71	112.34	111.89	114.08	114.27
113.25	114.97	112.02	112.68	113.46	114.83
113.75	111.53	106.88	106.83	111.17	111.95
110.82	103.9	100.98	101.25	102.71	103.98
106.58	106.01	97.46	98.92	104.78	106.16
105.93	114.26	103.35	104.31	112.08	114.05
115.34	114.22	101.58	104.46	111.46	113.99
112.54	108.81	93.9	97.63	105.65	108.78
110.4	113.45	98.73	100.18	110.79	113.04
117.79	115.79	99.65	99.89	117.26	117.54
118.92	114	96.97	96.96	118.1	118.74
119.19	115.65	98.57	99.3	120.92	122.31
122.16	118.52	97.64	98.9	121.6	123.46
122.54	114.92	90.7	90.05	120.33	119.2
118.67	111.5	91.42	90.7	121.96	122.01
122.72	112.91	87.78	87.77	123.29	124.53
122.38	106.97	88.46	89.52	117.46	119.66
118.77	110.17	95.66	96.2	115.43	119.31
116.24	110.77	90.95	93.51	112.88	113.98
107.6	111.21	95.12	92.99	113.2	108.39
106.76	114.2	92.29	93.27	105.37	106.47
105.99	113.19	86.47	85.55	103.67	105.66
107.52	109.24	78.6	76.1	100.86	104.43
102.98	109.34	65.75	66.94	100.34	102.86
102.17	107.75	65.74	67.89	98.26	101.35
103.88	107.25	58.25	54	98.11	103.53
96.23	109.94	55.08	54.61	93.48	96.53
95.27	108.97	58.21	52.66	92.94	93.88

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
4,2, FF	4,2, L	4,2, R	4,2, Est Open L	4,2, Est Open R	5,1, FF
78.51	78.52	78.69	77.88	78.53	79.05
86.1	86.74	87.04	86.47	86.69	87.53
97.22	96.71	97	97.35	97.67	98.89
108.43	107.7	107.98	108.26	108.77	110.48
109.48	109.33	109.84	109.5	109.9	112.45
104.82	103.38	103.57	104.42	105.03	109.37
102.71	100.94	100.13	103.02	103.27	113.01
105.3	101.62	102.2	103.7	105.1	114.1
110.99	108.49	108.49	110.83	111.37	109.14
114.42	109.18	110.23	113.28	114.49	108.3
109.22	104.13	104.83	107.7	109.31	105.44
102.87	96.11	96.81	100.83	102.74	117.29
107.59	96.98	100.41	104.87	107.31	119.92
107.6	96.42	98.59	105.05	108.09	115.13
114.18	99.01	98.35	112.26	114.2	108.46
112.12	98.5	98.35	113.4	113.64	111.18
114.38	100.72	99.81	120.69	121.07	115.42
118.71	101.7	100.86	124.21	125.41	119.14
113.4	92.72	93.07	116.27	117.91	115.96
109.03	85.82	89.28	114.48	116.02	111.55
104.95	88.11	88.31	116.33	117.82	105.93
102.87	85.1	84.95	112.03	113.74	107.86
105.37	89.99	91.03	115.57	116.66	109.23
111.59	95.55	96.41	119.33	120.6	108.6
114.07	91.49	93.66	115.24	118.28	114.32
115.46	99.97	102.33	116.15	113.01	113.99
117.53	97.05	100.48	111.21	110.69	112.64
111.76	90.41	85.94	105.76	105.03	111.89
113.08	81.5	78.96	105.92	108.98	114.19
112.62	68.5	78.23	103.97	103.99	109.43
107.73	65.23	65.82	101.89	102.99	110.9
107.95	55	59.02	100.62	98.89	108.34
108.54	55.07	51.33	94.37	94.65	110.32
107.86	57.51	58.24	92.49	93.11	108.78

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
5,1, L	5,1, R	5,1, Est Open L	5,1, Est Open R	5,2, FF	5,2, L
77.15	77.49	79	79.3	78.27	73.02
84.21	84.01	87.23	87.78	88.04	82.44
96.77	96.79	98.82	99.25	98.49	95.38
109.53	109.79	110.48	110.88	110.37	109.55
110.28	110.68	112.13	112.74	111.78	110.38
108.26	108.56	109.24	109.7	110.03	108.63
111.49	110.89	113.42	113.58	113.87	112.67
110.57	111.2	112.63	113.98	114.09	112.26
104.72	103.98	109.37	109.56	112.67	109.73
104.1	104.98	106.91	108.41	110.7	104.68
100.13	100.4	104.39	105.6	107.44	101.25
106.57	107.66	115.09	117.07	103.95	94.98
107.08	110.01	117.13	119.58	114.24	100.77
100.09	104.04	111.7	115.03	113.55	100.25
91.12	90.84	106.04	107.81	112.8	99.18
95.42	94.98	113.05	113.68	112.05	95.95
100.78	100.68	120.11	121.14	110.65	95.47
101.1	101.11	124.51	125.57	116.82	99.27
94.57	95.56	119.41	120.51	113.28	92.01
89.06	90.36	116.84	117.24	114.63	92.21
87.05	85.69	115.46	116.01	113.66	93.25
85.05	85.11	121.48	120.35	109.79	87.38
86.89	90.18	118.79	122.16	108.14	96.99
92.32	93.66	116.12	118.86	107.66	90.07
92.23	91.69	116.15	119.62	111.06	87.79
99.29	100.72	116.69	113.07	104.95	94.3
96.05	100.11	103.03	105.27	111.85	91.35
85.89	87.35	104.2	102.47	114.42	89.42
77.79	76.09	106.7	107.42	109.38	78.72
67.39	72.27	104.2	106.84	108.88	67.63
68.21	69.65	102.29	105.28	109.34	64.55
57.78	56.44	100.17	102.25	111.13	63.55
55.87	51.13	96.71	96.74	111.47	56.81
57.57	53.81	94.63	94.15	110.38	57.56

132	132	132	150	150	150
Test	Test	Test	Test	Test	Test
5,2, R	5,2, Est Open L	5,2, Est Open R	1,1, FF	1,1, L	1,1, R
73.19	77.75	78.24	86.91	91.73	90.26
82.83	88.09	88.47	96.17	96.76	97.21
95.68	98.27	98.79	105.59	104.46	104.87
109.85	110.2	110.7	115.23	113.17	113.2
110.71	111.2	111.97	115.86	113.39	113.2
108.64	109.76	110.24	117.26	112.47	112.79
112.1	114.4	114.23	122.76	118.21	118.33
112.68	112.32	113.91	123.17	117	118.17
108.57	113.36	113.45	125.65	116.09	116.16
103.69	109.33	110.79	129.69	118.68	119.69
101.06	106.54	107.73	125.25	110.48	111.88
96.32	102.03	103.74	127.85	111.5	112.88
104.74	111.19	113.79	131.24	111.98	114.69
103.42	110.78	113.67	129.91	111.24	111.55
99.34	110.64	112.53	129.34	111.05	112.91
95.82	113.93	114.61	128.23	110.28	111.57
95.35	116.18	115.4	124.69	109.71	111.23
98	121.9	122.98	127.33	106	106.02
91.31	116.06	117.47	127.52	100.65	101.56
94.1	119.74	121.49	125.43	102.76	100.95
94.12	123.91	124.03	123.03	99.8	99.94
87.76	123.39	123.54	125.75	99.9	99.58
99.03	117.52	118.32	121.79	102.43	103.78
95.8	113.63	116.57	123.81	102.65	104.14
89.47	109.59	112.05	126.47	102.94	98.61
96.36	104.82	102.54	121.4	107.57	102.92
97.12	105.34	106.74	120.93	102.94	101.99
82.16	104.32	106.67	124.75	106.3	107.88
78.92	105.43	105.71	122.48	90.23	92.42
77.77	101.78	102.04	120.6	85.36	83.24
66.08	100.12	101.56	119.81	81.79	82.34
56.31	101.28	103.75	117.31	73.04	72.6
50.3	96.05	99.8	118.54	62.76	61.7
58.04	94.77	97.45	119.41	67.41	63.62

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
1,1, Est Open L	1,1, Est Open R	1,2, FF	1,2, L	1,2, R	1,2, Est Open L
86.21	86.76	89.05	96.38	95.14	88.76
95.88	96.25	94.3	99.79	98.33	94.77
105.75	105.99	106.06	106.3	106.42	105.78
115.3	115.61	116.98	115.34	115.89	117.19
115.27	115.96	116.69	113.09	113.32	116.32
117.41	117.77	116.42	111.56	111.96	116.49
123.42	123.36	122.41	117.29	116.83	122.69
121.59	122.69	124.36	116.7	118.7	123.25
125.08	125.75	125.8	116.99	115.74	125.21
128.43	129.61	129.37	117.66	118.24	128.23
125	125.89	124.47	110.24	111.54	123.71
126.58	128.13	130.87	114.93	116.37	128.77
127.86	130.77	133.73	114.29	117.1	130.66
126.21	129.54	131	111.63	111.94	127.35
127.98	128.75	131.07	108.02	110.25	129.64
129.44	130.82	131.18	108.79	110.36	132.49
133.46	134.25	124.76	107.52	109.51	131.85
132.06	132.42	123.29	99.91	100.93	129.05
129.81	132.36	130.24	104.71	105.29	133.45
128.75	130.24	127.83	103.3	102.22	133.63
134.61	134.79	124.09	99.41	100.89	136.24
138.36	139.27	125.9	99.05	97.39	137.87
135.88	137.23	121.63	99.14	100.37	134.19
134.04	137.06	122.49	105.02	103.82	133.39
126.32	129.23	124	103.41	99.76	121.75
115.46	120.82	120.22	105.64	107.74	119.11
117	118.2	122.19	106.55	104.27	115.92
113.85	114.19	122.29	101.82	103.01	112.72
113.4	115.47	124.1	87.09	91.65	115.44
113.07	112.2	118.17	81.87	83.29	116.21
111.28	108.31	118.85	79.4	82.02	109.82
109.46	110.21	116.74	72.35	77.52	108.34
103.46	103.84	117.83	64.16	68.97	105.18
103.02	99.34	120.06	67.12	67.15	103.08

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
1,2, Est Open R	2,1, FF	2,1, L	2,1, R	2,1, Est Open L	2,1, Est Open R
89.08	88.51	89.27	90.54	88.28	88.52
94.88	94.68	96.28	97.58	94.2	94.67
106.2	104.45	103.12	104.58	104.37	104.71
117.44	113.14	111.21	112	113.37	113.61
116.9	113.2	111.64	112.35	113.84	113.95
116.79	116.92	112.04	112.52	117.05	117.33
122.75	122.34	117.27	117.18	122.74	122.87
124.41	124.66	116.58	118.55	123.44	124.66
125.96	125.13	114.99	116.16	124.54	125.17
129.35	129.39	118.32	120.11	127.94	129.21
124.41	125.13	109.05	110.23	124.73	125.69
130.52	128.81	112.12	114.33	127.64	129.2
133.51	133.66	113.81	118.61	130.19	133.1
130.71	132.98	113.51	116.84	128.66	132.24
130.52	130.57	107.94	108	128.44	129.57
133.97	129.75	104.62	106.51	130.78	132.41
133.15	123.71	100.4	99.62	130.85	130.15
128.41	125.56	98.76	98.71	130.33	130.55
134.1	126.11	96.43	98.85	129.36	130.46
134.36	127.78	104.82	105.2	136.06	135.92
135.63	126.76	102.54	102.24	138.08	137.97
139.05	117.51	98.31	98.6	130.62	131.17
138.43	118.48	101.96	101.66	131.05	134.15
136.58	118.1	101.3	100.07	127.93	130.02
125.83	123.78	99.8	100.51	123.74	129.26
117.39	122.19	103.05	103.61	117.01	119.09
118.06	124.05	101.81	104.53	115.92	117.32
113.32	122.36	100.77	103.88	114.37	113.5
116.77	123.16	83.73	88.75	115.38	117.36
115.86	121.24	84.16	87.91	115.64	113.8
109.44	121.05	81.18	84.83	111.81	110.77
107.77	117.86	69.44	74.14	109.11	107.87
105.09	116.98	63.04	62.06	102.16	102.9
103.38	117.25	64.38	65.97	99.97	101.39

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
2,2, FF	2,2, L	2,2, R	2,2, Est Open L	2,2, Est Open R	3,1, FF
87.68	91.42	93.94	87.57	87.91	84.93
95.63	98.33	100.24	95.82	96.02	94.95
106.57	105.79	107.64	106.69	106.95	105.48
116.6	115.07	115.92	116.52	116.9	115.2
115.47	114.79	115.51	116.07	116.2	116.17
116.13	111.07	111.23	116.29	116.59	117.14
121.7	115.47	115.77	121.94	122.12	122.51
122.08	116.04	116.67	121.51	122.56	123.48
125.09	116.92	116.48	125.79	125.94	125.16
129.21	117.74	118.99	128.13	129.21	129.56
126.74	110.82	111.66	125.65	126.92	126.99
130.46	112.92	116.44	128.26	130.24	129.54
132.72	113.51	119.03	129.36	132.13	133.21
131.84	112.64	114.77	128.06	130.5	132.28
130.72	108.24	108.87	129.07	129.6	129.39
129.88	107	107.47	130.65	132.19	127.86
124.29	101.11	101.24	131.62	131.15	125.13
124.95	96.58	95.58	129.9	129.98	124.64
124.44	98.91	102.05	127.17	128.8	126.63
125.07	101.91	100.82	129.61	129.59	127.28
125.17	100.17	101.24	137.3	136.61	128.8
124.7	96.93	98.63	137.08	137.56	124.8
121.84	97.62	106.56	136.28	138.03	123.76
120.21	103.43	104.58	131.96	133.5	125.84
124.65	100.54	100.42	119.89	124.73	121.59
119.69	107.46	104.03	118.72	117.62	120.45
125.67	103.32	105.72	118.06	117.72	118.85
124.1	102.72	104.77	113.01	114.74	122.82
119.55	87.68	88.1	114.42	118.15	125.76
118.72	88.46	85.96	115.1	114.16	121.7
118.17	86.24	82.61	110.15	112.07	121.08
117.36	73.73	76.05	109.5	108.61	120.01
118.31	64.13	65.26	104.01	104.55	117.05
117.89	64.23	67.7	102	98.2	116.78

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
3,1, L	3,1, R	3,1, Est Open L	3,1, Est Open R	3,2, FF	3,2, L
89.19	90.56	84.93	85.06	88.58	90.71
97.54	98.45	95.26	95.41	96.51	97.61
104.49	105.59	105.69	105.91	105.99	104.36
112.79	113.45	115.3	115.6	114.68	112.43
112.04	112.56	115.73	116.35	114.85	112.01
111.79	112.13	117.33	117.69	117.74	111.67
116.38	116.25	122.51	122.65	123.04	116.87
114.43	116.59	121.78	123.23	122.52	116.24
115.55	115.7	125.19	125.66	124.96	116.23
116.83	118.64	128	129.33	129.48	117.7
111.24	112.94	125.15	126.77	127.01	111.17
111.83	114.41	128.13	129.8	129.25	110.85
112.72	116.6	129.45	132.4	132.87	112.66
112.11	113.75	128.02	131.39	131.96	111.41
105.9	107.53	127.11	128.42	129.22	106.5
104.17	105.76	128.97	130.51	128.9	110.17
109.74	110.8	132.96	133.84	123.11	106.16
99.29	100.66	129.43	129.65	125.56	100.96
97.52	98.39	129.64	130.86	130.62	102.31
104.68	104.58	134.32	134.44	121.28	101.63
104.95	106.82	140.31	140.28	124.11	101.54
99.56	99.03	136.75	137.8	123.78	95.42
101.71	101.61	136.23	136.16	124.58	103.44
103.51	106.17	136.43	139.72	122.44	100.71
101.21	98.51	122.56	127.92	123.03	99.14
111.31	107.36	115.8	118.56	118.62	109.34
106.98	104.66	112.48	114.09	122.26	105.98
104.31	106.38	114.31	114.3	123.71	102.73
89.09	87.65	116.09	116.3	119.94	88.62
80.24	83.36	114.98	113.46	122.13	81.48
81.93	82.32	112.46	109.78	118.68	80.98
72.88	74.97	108.46	106.76	118.91	71.63
62.39	63.64	103.82	103.57	116.74	62.04
64.92	68.14	101.18	97.22	117.35	66.86

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
3,2, R	3,2, Est Open L	3,2, Est Open R	4,1, FF	4,1, L	4,1, R
90.14	88.62	88.84	86.1	90.09	91.47
98.33	96.19	96.58	93.76	95.04	95.4
105.38	106.06	106.34	105.42	104.52	104.9
113.02	114.62	114.99	114.03	112.72	112.95
112.68	114.12	114.88	114.24	113.62	113.8
112.04	117.85	118.18	117.67	113.24	113.04
116.96	123.14	123.4	122.53	117.67	117.12
117.52	121.93	122.92	124.69	117.6	118.38
115.35	125.7	125.82	124.57	114.42	114.77
119.22	128.32	129.44	129.22	118.09	118.98
112.07	125.89	127.17	123.86	109.6	112.19
114.3	127.3	129.19	129.23	111.71	114.4
117.83	129.56	132.38	133.36	113.69	119.09
114.52	128.17	130.6	131.39	110.42	114.69
109.21	127.96	128.44	130.14	108.34	107.57
111.85	129.98	131.19	129.04	104.64	106.87
108.66	130.15	131.71	121.69	103.33	104.99
100.09	130.94	131.17	123.49	106.28	105.64
104.86	133.03	134.7	125.57	100.63	104.19
100.48	128.52	128.78	128.37	104.27	105.58
103.2	136.63	136.73	127.58	104.04	104.84
98.65	136	137.34	125.48	96.63	101.98
107.61	135.61	136.72	124.88	102.56	107.8
104.94	128.84	134.64	123.18	102.89	104.81
101.54	122.43	125.61	122.99	98.4	103.63
107.79	116.82	117.45	124.4	106.61	111.2
101.92	113.23	117.03	121.65	104.31	108.33
102.25	112.62	112.09	122.45	101.86	101.69
87.65	113.39	115.58	119.84	92.07	90.38
81.88	115.78	114.46	121.43	81.29	88
81.22	111.91	109.75	117.77	84.63	79.92
73.38	108.75	108.16	117.13	74.49	75.46
66.54	101.39	102.45	116.83	63.45	66.49
66.2	100.15	97.83	117.6	63.52	67.85

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
4,1, Est Open L	4,1, Est Open R	4,2, FF	4,2, L	4,2, R	4,2, Est Open L
85.5	85.78	88.27	89.2	87.2	88.46
93.32	93.76	96.98	97.09	96.62	96.77
105.39	105.71	105.32	103.91	104.5	105.57
114.29	114.52	115.2	112.74	113.09	115.4
114.91	115.01	117.53	111.31	111.58	117.22
117.77	118.06	117.94	113.61	113.69	118.14
122.93	123.05	123.72	117.93	117.23	123.45
123.51	124.71	125.41	117.47	118.68	123.8
123.87	124.69	125.38	115.16	115	125.2
128.04	129.16	128.95	116.97	118.38	127.42
123.85	124.63	126.78	112.14	113.3	125.13
126.8	128.9	127.79	109.9	112.98	125.49
130.26	133.11	134.28	115.6	119.78	130.89
126.53	130.86	133.46	114.85	118.03	128.94
128.85	129.63	131.23	108.09	109.9	130.57
130.11	131.69	129.34	109.44	110.39	130.5
128.37	130.23	125.04	104.02	104.33	132.8
129.58	128.61	127.3	101.94	104.11	132.3
128.63	129.34	130.49	103.77	105.71	133.1
130.85	132.62	119.96	99.71	98.37	127.66
139.12	139.33	122.17	99.79	99.11	133.37
138.75	139.36	120.47	97.21	96.13	132.67
137.87	140.35	120.6	103.15	106.77	134.9
130.87	135.77	122.93	103.07	106.13	133.04
121.59	125.17	123.21	105.66	102.7	123.57
119.07	120.57	124.41	109.82	110.49	120.56
115.46	116.78	124.28	108.37	104.99	119.54
111.95	113.83	125.14	108.05	103.77	112.31
114.01	115.12	121.58	90.44	90.14	115.08
114.56	113.45	120.14	86.12	88.64	113.76
111.55	109.77	116.79	82.81	89.46	110.15
107.22	106.9	119.08	74.86	75.27	109.73
104.13	103.83	118.97	62.42	65.36	104.22
100.85	99.94	120.59	65.01	65.73	101.58

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
4,2, Est Open R	5,1, FF	5,1, L	5,1, R	5,1, Est Open L	5,1, Est Open R
88.67	86.39	92.53	92.4	85.84	86.31
97.11	95.92	98.96	98.85	95.53	95.93
105.78	106.57	106.44	106.57	106.62	106.91
115.65	116.34	115.43	115.57	116.62	116.83
117.78	116.06	113.9	114.36	116.45	116.68
118.51	116.59	111.6	111.9	116.67	116.97
123.95	122.49	117.22	116.55	122.76	122.8
125.19	124.68	117.47	118.97	123.49	124.73
125.78	125.11	115.77	115.91	124.5	125.28
128.73	129.06	117.82	118.82	128.02	129.09
126.66	124.52	110.15	112.12	123.59	124.33
127.53	130.24	112.55	114.79	127.99	130
133.74	133.05	113.49	117.04	130.13	132.94
132.78	130.41	111.02	111.61	127.01	128.93
130.98	131.32	108.24	110.77	129.68	130.65
131.82	129.85	109.53	111.32	131.09	132.42
133.31	121.98	102.43	104.02	128.47	131.07
132.34	124.51	100.77	100.34	129.38	129.36
135.03	129.06	102.15	103.36	131.89	133.51
127.99	125.27	105.29	101.92	131.55	131.05
133.19	125.21	101.73	102.71	137.21	137.62
133.96	123.76	95.59	96.58	136.87	137.7
135.87	125.13	103.38	104.81	138.07	139.56
136.2	120.91	101.35	101.13	131.77	133.98
125.35	121.06	98.48	101.01	119.68	124.78
122.53	121.44	108.12	107.05	117.02	118.37
118.38	125.65	104.34	106.11	117.95	117.75
115.52	123.32	106.94	105.07	115	114.94
117.66	121.48	89.83	89.18	117.35	119.37
114.8	122.75	81.61	81.05	116.25	115.42
107.86	119.14	84.37	80.68	111.16	110.61
106.71	118.4	74.59	70.7	109.82	108.87
104.46	117.49	62.28	63.33	106.61	105.9
98.67	117.81	68.07	65.36	101.22	100.82

150	150	150	150	150	168
Test	Test	Test	Test	Test	Test
5,2, FF	5,2, L	5,2, R	5,2, Est Open L	5,2, Est Open R	1,1, FF
88.72	94.1	94.46	88.42	88.76	100.31
93.96	97.65	98.21	94.29	94.38	107.68
105.7	106	106.67	105.42	105.84	117.78
116.43	115.34	115.63	116.7	116.92	127.54
116.41	112.06	112.48	116.09	116.65	129.52
115.9	110.37	110.2	116.06	116.34	132.32
123.09	117.74	117.13	122.8	123.31	139.36
125.02	118.3	119.2	123.96	125.15	141.44
124.86	114.98	115.07	124.46	125.14	141.99
128.88	117.4	119.15	127.71	128.65	142.51
125.29	111.19	112.93	122.97	124.82	143.64
129.64	112.39	115.42	127.85	129.69	147.37
133.6	114.41	119.27	130.26	133.18	149.73
132.25	111.88	115.67	128.45	131.07	150.7
130.1	107.41	111.4	128.74	129.18	148.8
127.38	102.69	104.46	129.05	130.5	148.74
123.09	105.22	105.04	130.24	131.25	143.72
124.32	104.77	103.89	130.08	130	145.63
126.09	102.31	102.99	129.11	130.44	146.97
124.81	104.64	102.7	132.87	132.85	146.74
122.91	100.87	101.51	136.04	136.07	146.48
126.97	98.41	102.41	139.4	140.15	147.26
126.22	101.43	108.25	136.57	140.3	147.9
127.05	103.64	108.19	135.64	139.74	143.72
121.48	97.99	100.39	121.25	126.45	147.59
124.22	111.48	107.34	118.49	120.17	146.89
123.67	107.38	104.8	118.42	116.99	148.27
125.41	102.42	105.29	113.72	114.79	147.3
122.32	89.23	88.97	114.79	117.92	147.24
120.73	83.29	83.4	115.31	115.41	147.37
119.28	84.55	85.49	111.56	113.5	147.39
119.72	76.86	70.44	109.71	111.74	146.55
116.17	63.85	64.51	105.2	103.9	147.16
118.61	68.78	68.07	104.86	99.81	147.38

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
1,1, L	1,1, R	1,1, Est Open L	1,1, Est Open R	1,2, FF	1,2, L
113.78	113.06	101.92	102.66	99.26	110.56
115.48	114.48	107.5	107.67	106.99	114
119.13	118.75	117.39	117.62	118.77	119.02
124.16	124.04	127.71	128.06	127.47	123.82
123.05	122.38	129.75	130.26	127.41	122.1
124.53	123.98	132.67	133.09	131.85	124.87
129.58	128.8	139.75	139.96	139.41	130.11
127.36	128.87	140.83	142.05	140.66	128.19
128.69	126.2	142.87	143.28	141.43	128.11
122.25	122.85	141.66	143.14	142.74	122.05
120.88	124.46	143.93	144.99	143.6	118.54
124.45	129.01	146.3	148.09	146.22	121.52
126.98	133.19	147.49	150.1	149.79	124.5
124.84	129.14	148.14	150.54	151.29	126.96
118.39	120.09	148.22	148.8	149.15	120.11
118.08	120.7	150.56	151.78	148.56	116.42
113.84	115.61	151.97	151.83	142.87	111.77
112.69	113.74	151.94	152	145.22	110.21
116.91	117.62	152.86	152.99	146.65	114.35
121.53	120.43	155.87	155.71	145.56	120.5
122.11	121.71	159.36	158.82	146.75	121.55
118.87	120.24	164.78	164.71	147.41	118.89
123.9	130.4	165.12	166.4	147.15	122.25
122.79	129.58	163.9	162.87	143.46	118.98
116.82	118.36	158.42	158.89	146.54	120.31
120.91	120.59	150.73	150.86	147.27	119.88
112.84	114.78	147.79	147.76	148.52	114.6
115.57	113.63	147.62	145.38	147.79	116.16
100.29	99.36	150.11	150.38	143.45	100.45
99.07	101.36	146.42	147.14	147.45	97.53
102.27	103.37	144.72	145.43	147.01	99.67
99.1	103.86	144.49	142.81	147.18	99.15
94.26	100.04	139.68	139.69	146.75	93.85
91.39	95.51	139.13	140.85	146.51	98.73

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
1,2, R	1,2, Est Open L	1,2, Est Open R	2,1, FF	2,1, L	2,1, R
110.45	100.1	100.54	99.82	108.19	108.52
113.73	107.18	107.53	109.3	113.49	113.69
119.25	117.04	117.34	118.49	116.7	119.01
124.19	127.46	127.85	127.14	122.71	124.21
122.01	128.76	129.06	127.88	120.53	122.59
124.37	132.1	132.5	131.63	124.05	124.43
129.93	139.79	140.16	139.02	128.5	129.46
128.99	139.78	141.16	139.18	128.4	129.66
126.04	142.18	142.49	141.29	127.33	126.57
123.56	142.24	143.54	142.64	120.4	122.85
121.08	142.96	144.45	141.18	117.73	121.53
125.75	145.54	147.16	146.04	120.66	126.39
130.75	147.16	149.94	150.04	123.15	130.38
130.77	148.14	151.13	150.16	121.76	130.19
119.65	148.71	149.62	148.67	120.6	121.16
118.46	150.63	151.96	148.28	116.43	117.92
114.83	149.8	151.84	143.19	113.38	113.66
110.9	151.37	151.41	144.58	111.84	111.21
115.72	152.49	152.76	146.31	110.69	112.85
119.82	155.52	155.55	147	119.11	117.77
120.88	159.89	159.51	145.89	121.63	121.43
116.93	164.61	164.56	146.94	118.11	119.81
126.19	164.2	165.83	147.58	122.03	128.1
121.51	162.87	162.46	143.19	115.76	128.67
120.02	157.39	158.02	147.04	116.24	117.89
122.99	151.45	152.01	146.64	120.31	115.53
114.95	148.15	147.28	148.28	110.45	111.85
109.28	147.84	145.68	146.89	115.27	116.29
99.75	147.24	149.89	145.24	102.4	105.07
103.81	146.88	147.4	147.25	95.91	100.34
105.18	144.98	145.63	146.72	100.51	101.56
98.43	145.06	143.96	146.19	100.48	103.16
95.16	139.25	139.56	146.82	94.18	98.31
99.21	139.22	140.75	146.7	87.43	93.89

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
2,1, Est Open L	2,1, Est Open R	2,2, FF	2,2, L	2,2, R	2,2, Est Open L
100.8	101.56	97.95	107.94	108.3	99.19
106.4	106.5	108.38	114.36	114.61	105.96
116.59	116.76	118.49	117.19	119.29	116.91
126.96	127.3	126.94	122.53	124.21	127.1
128.88	129.25	126.92	120.17	121.75	127.59
132.07	132.66	132.01	124.16	123.95	132.35
139.27	139.57	139	128.97	129.35	139.35
138.71	139.84	141.45	127.27	129.42	140.81
142.7	142.84	142.01	127.74	126.56	142.91
142.16	143.44	142.53	120.17	123.16	141.77
141.35	142.13	144.11	120.72	124.64	144.3
145.51	146.94	147.24	123.64	128.48	146.02
147.65	150.37	149.61	126.35	132.84	147.26
146.53	149.99	149.88	128.21	129.85	147.5
147.89	148.43	149.2	120.66	120.17	148.03
150.04	151.61	148.15	116.65	119.24	150.48
151.66	151.29	142.58	112.9	113.42	151.28
151.25	151.48	145.05	111.59	113.23	152.17
152.09	152.29	147.2	115.83	115.8	152.41
155.36	155.05	148.55	122.76	120.26	154.86
158.87	159.05	147.01	121.16	121.8	160.1
164.38	164.13	147.34	121.31	120.84	164.98
165.09	166.07	146.03	127.45	129.39	163.72
163.33	161.97	144.12	130.4	132.32	163.44
158.46	158.86	147.38	123.21	123.92	158.46
151.21	153.1	146.49	117.89	117.04	150.94
148.13	147.77	148.23	113.1	112.64	148.34
146.99	144.29	147.44	119.55	116.14	147.62
148.31	150.22	146.21	104.68	104.48	149.16
147.06	146.79	147.2	97.88	100.94	146.77
144.01	145.16	147.23	101.58	104.33	144.71
143.35	144.88	146.3	101.64	102.62	143.87
138.86	139.3	146.91	96.64	99.52	139.02
138.29	139.81	147.07	97.03	99.69	138.5

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
2,2, Est Open R	3,1, FF	3,1, L	3,1, R	3,1, Est Open L	3,1, Est Open R
99.78	100.36	112.97	112.64	102.26	102.88
106.14	107.34	114.46	113.98	107.31	107.53
117.2	117.27	118.59	118.94	116.98	117.19
127.46	127.2	124.11	124.21	127.53	127.85
127.81	129.61	122.75	122.56	129.97	130.45
132.77	132.3	123.86	123.51	132.63	133.04
139.56	139.82	128.97	129.58	139.74	140.34
142.07	141.84	127.6	129.33	141.23	142.54
143.32	141.97	127.16	126.02	143.17	143.43
143.11	142.92	120.54	122.84	142.31	143.66
145.4	141.96	119.63	123.84	142.72	143.58
147.91	147.15	122.27	128.44	146.42	148.06
149.88	149.97	125.85	129.31	147.33	150.11
149.71	150.86	125.91	124.89	147.65	150.74
149.14	149.16	117.88	117.46	148.33	149.4
152.04	148.61	116.64	118.24	150.94	152.38
150.37	142.02	111.32	114.29	149.71	151.22
152.41	145.22	112.54	117.73	151.81	152.07
152.88	147.25	114.89	121.25	152.78	153.54
153.97	148.07	120.15	125.87	155.03	155.49
159.93	146.88	123.23	120.75	159.98	159.95
164.63	147.87	120.98	115.03	164.87	164.67
163.95	148.07	124.66	124.09	165.78	166.09
162.22	144.4	120.69	128.2	163.95	163.27
158.91	146.59	118	128.93	157.48	157.94
152.78	146.83	121.08	125.2	150.73	150.96
148.34	147.99	112.63	119.68	147.82	147.32
144.98	148.5	112.19	117.36	148.72	146.06
151.13	146.04	98.19	105.85	149.56	150.69
146.89	147.47	99.84	102.62	147.23	147.61
145.77	147.22	101.89	106.04	145.03	146.18
145.24	146.97	100.74	100.93	144.27	146.21
139.56	147.24	92.27	97.65	139.09	139.29
140.04	146.78	91.7	104.29	138.43	140.19

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
3,2, FF	3,2, L	3,2, R	3,2, Est Open L	3,2, Est Open R	4,1, FF
99.74	109.19	109.24	100.37	100.88	99.79
106.97	112.89	111.9	107.8	108.01	106.44
118.27	117.76	117.84	117.29	117.47	118.13
127.65	124.32	124.52	128.06	128.37	127.19
129.49	122.8	122.88	129.96	130.44	128.61
132.54	124.08	124.02	132.91	133.44	131.81
140.27	129.4	130.15	140.56	140.98	139.29
141.89	129.17	131.06	141.4	142.61	140.38
141.29	127.08	125.96	142.78	142.73	141.95
142.91	122.26	122.6	142.17	143.59	142.56
143.9	119.09	121.53	142.84	144.52	143.45
146.72	120.55	124.19	145.57	147.43	146.7
149.71	123.22	127.97	147.43	150.03	149.12
150.19	125.05	125.26	147.75	150.02	149.3
148.91	119.04	118.56	147.97	148.72	148.82
149	115.46	118.75	150.86	152.54	148.25
143.13	113.2	114.92	151.59	150.8	141.62
144.97	109.36	111.84	151.8	152.05	144.54
147.23	111.98	115.83	152.35	152.99	146.72
148.44	120.85	122.55	155.45	154.77	148.16
147.01	121.94	122.18	160.12	160.02	146.33
147.37	117.4	114.68	164.55	164.37	147.37
148.47	121.03	122.86	166.23	166.63	147.23
145.25	115.52	118.42	165.93	164.32	144.28
145.27	116.1	116.04	156.49	156.95	147.87
145.4	117.8	118.3	149.32	149.67	147.86
146.7	116.47	110.6	146.38	145.51	148.16
148.49	112.33	109.74	148.72	146.45	146.99
147.53	100.68	97.39	150.74	150.03	147.02
146.17	96.97	97.54	146.3	146.5	146.8
147.51	99.41	103.81	145.16	146.01	147.54
146.71	99.72	99.61	144.33	142.75	145.23
146.78	96.09	92.56	139.44	139.65	147.32
146.82	91.1	94.85	139.2	140.89	147.19

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
4,1, L	4,1, R	4,1, Est Open L	4,1, Est Open R	4,2, FF	4,2, L
110.75	110.42	100.65	101.26	101.18	109.19
113.73	113.19	107.37	107.65	109.1	114.08
119.36	119.2	116.59	116.77	118.73	118.29
125.4	125.36	127.32	127.6	127.82	124.07
124.35	123.8	129.4	129.8	129.14	121.85
126.57	124.54	132.32	132.89	132.11	125.19
132.31	130.3	139.89	139.94	139.65	130.17
131.56	131.63	140.08	141.23	140.42	130.17
131.06	126.94	142.79	143.23	141.41	127.85
124.76	123.07	142.22	143.28	143.24	122.26
121.97	121.31	143.47	144.65	143.81	117.97
124.24	124.57	145.36	147.3	146.31	119.9
125.54	127.1	146.7	149.33	149.64	122.56
125.62	125.36	147.12	149.13	150.48	121.95
125.77	121.09	147.91	149	148.37	122.41
123.13	119.37	150.7	152.18	148.31	117.74
116.35	114.97	149.65	150.82	142.96	111.95
113.92	110.37	151.43	151.67	144.37	110.81
113.49	111.79	152.17	153.09	145.42	109.08
120.72	119.62	154.37	154.96	147.17	120.51
123.46	122.67	159.43	159.43	145.82	122.49
119.58	116.97	164.52	164.2	146.26	115.59
124.1	123.36	164.81	165.34	146.7	118.99
126.29	113.68	162.3	161.64	143.44	115.99
122.89	114.66	158.56	159.26	148.83	119.77
120.25	118.7	151.87	152.71	148.4	122.64
108.7	113.87	148.45	148.15	147.18	115.26
119.98	114.78	147.4	144.82	146.5	120.94
109.92	103.22	149.73	150.03	146.36	105.16
97.97	96.77	146.36	146.46	146.4	98.5
105.46	104.72	144.47	145.73	147.26	102.96
100.26	101.79	142.33	144.98	144.71	99.49
98.34	99.89	139.04	138.82	147.38	90
100.44	94.59	138.63	139.87	146.64	98.51

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
4,2, R	4,2, Est Open L	4,2, Est Open R	5,1, FF	5,1, L	5,1, R
108.48	101.67	102.22	100.05	109.56	109.01
113.43	106.34	106.58	108.73	115.4	115.22
119.23	117.83	118.08	118.17	119.71	119.38
125.2	127.53	127.97	126.57	124.49	124.01
122.68	128.68	129.34	128.09	120.53	120.25
125.33	132.69	133.26	132.01	124.53	123.45
130.68	140.26	140.29	138.82	129.66	129.43
131.62	140.09	141.26	140.44	129.07	130.08
127.7	142.46	142.8	141.45	128.46	126.43
126.17	142.47	143.91	142.43	121.68	122.73
124.48	143.99	145.09	143.28	118.62	120.71
128.23	145.39	147.14	146.82	120.12	124.85
132.59	147.49	150.07	149.38	121.26	127.62
130.22	147.8	150.32	150.61	121.85	126.09
126.13	148.3	148.87	149.57	123.34	120.4
121.59	150.13	151.39	147.44	117.65	117.54
114.01	150.8	151.25	142.14	110.71	112.5
112.43	150.79	151.02	144.91	109.78	110.35
113.56	151.03	151.87	146.87	110.75	111.15
118.5	153.2	153.83	148.6	121.25	120.51
122.96	158.99	159	146.79	122.31	122.05
119.19	163.3	162.91	147.08	115.25	116.99
124.24	164.37	165.1	146.2	119.13	123.92
123.88	164.58	162.4	143.8	115.32	117.17
113.21	159.93	160.47	146.63	119.92	116.82
118.33	152.59	153.13	145.74	120.21	113.36
114.61	146.9	146.43	148.11	110.84	110.77
113.74	147.21	144.66	147.68	117.08	115.46
105.28	148.58	150.45	144.86	105.53	101.1
100.76	146.51	146.29	147.51	96.46	96
103.32	144.57	145.7	147.16	103.55	103.23
103.19	143.55	144.06	147.39	100.21	99.26
99.51	139.64	138.82	147.24	93.64	93.2
97.29	139.18	140.22	146.34	100.43	90.66

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
5,1, Est Open L	5,1, Est Open R	5,2, FF	5,2, L	5,2, R	5,2, Est Open L
101.43	101.95	99.54	111.36	110.08	100.52
106.75	106.95	109.16	115.92	114.73	105.94
116.86	117.13	118.22	118.63	118.28	116.6
126.86	127.18	127.4	125.13	124.77	127.41
127.17	127.93	129	123.76	123.4	129.79
132.3	132.84	132.35	125	124.21	132.86
139.11	139.52	139.45	130.24	129.87	140.23
140.14	141.31	140.83	130.41	131.1	140.56
142.47	142.41	141.95	128.46	126.13	142.62
142.08	143.18	142.46	121	122.25	142.28
142.35	143.97	144.49	118.39	119.59	144.38
145.68	147.53	146.99	119.99	125.13	145.52
147.08	149.7	149.58	121.69	127.97	147.43
148.22	150.46	148.55	120.45	125.48	146.23
148.69	149.68	148.84	121.8	121.2	148.8
149.86	151.39	148.57	120.17	118.26	150.48
150.78	149.96	143.72	113.99	115.23	151.1
152.02	152.27	145.44	110.43	112.12	152.17
152.11	152.62	147.37	109.56	111.59	152.47
155.02	154.18	148.57	119.09	119.8	155.81
159.89	159.75	146.94	123.2	123.15	159.97
164.81	164.45	147.74	115.25	117.06	164.65
163.94	163.71	148.26	117.78	124.73	165.95
163.28	162.12	144.46	116.41	119.84	164.68
157.92	158.46	147.22	121.24	114.13	157.95
150.34	152.39	146.69	121.69	112.73	150.64
148.05	147.48	147.91	108.17	113.53	147.75
147.81	145.35	148.2	120.1	112.74	148.48
148.33	150.43	146.84	107.87	101.74	149.94
146.72	147.52	147.07	95.57	96.92	147.56
144.73	145.66	147.66	103.74	102.16	144.73
144.97	145.64	145.21	99.91	99.26	143.18
139.41	139.24	147.82	92.35	93.92	139.71
138.67	140.55	147.2	98.54	90	139.29

168	132	132	150	150	168
Test	T(f)	T(f)	T(f)	T(f)	T(f)
5,2, Est Open R	L	R	L	R	L
101.32	0.02	0.3	-0.12	0.15	1.77
106	0.1	0.45	-0.07	0.23	-1.2
116.78	-0.04	0.37	0	0.31	-1.05
127.69	-0.02	0.39	0.12	0.4	0.12
130.19	-0.17	0.34	-0.01	0.39	0.23
133.42	-0.48	0.18	-0.09	0.38	0.24
140.34	0.89	0.72	0.15	0.29	-0.09
141.74	-1.14	0.05	-1.26	0.07	-0.7
143.17	0.69	0.87	0.67	0.76	1.27
143.36	-0.78	0.32	-1.11	-0.11	-0.29
145.62	-1.39	0.1	-1.17	0.09	-0.39
147.47	-2.04	-0.22	-1.78	-0.03	-0.95
150.12	-2.75	-0.37	-3.24	-0.44	-2.42
148.42	-3.59	-0.12	-4.18	-0.94	-3.14
149.51	-1.94	-0.22	-1.32	-0.7	-0.38
152.09	1.76	2.4	0.9	2.4	1.89
152.51	5.17	5.68	7.62	8.39	8.19
152.45	5.9	6.7	5.09	4.68	6.6
153.15	2.98	4.45	3.08	4.57	5.39
155.19	5.86	5.85	5.57	5.66	6.81
159.91	13.2	12.9	12.51	12.32	13.11
164.55	15.89	14.95	15.12	14.91	17.53
166.28	15.39	15.67	16.97	17.31	16.28
163.55	13.18	13.28	14.69	15.1	17.7
158.55	5.87	6.77	8.52	9.71	10.56
150.71	4.59	3.26	4.43	5.23	4.26
147.43	0.27	0.88	2.03	1.46	0.92
145.73	-1.06	-1.08	-0.73	-1.64	0.25
150.7	1.06	2.06	1.56	1.77	3.4
147.2	0.05	-0.22	1.48	-0.34	0.46
146.07	-0.22	-0.32	-0.27	-0.95	-1.38
145.09	-1.46	-2.02	-1.42	-3.61	-1.16
139.25	-7.21	-6.39	-6.34	-7.64	-5.45
140.48	-9.27	-8.48	-8.37	-10.38	-6.6

168	132	132	132	132	132	132
T(f)	PIL	PIL	PIL	PIL	PIL	PIL
R	1,1, L	1,1, R	1,2, L	1,2, R	2,1, L	
2.35	1.01	1.82	-3.69	1.8	3.7	
-0.9	0.5	0.43	-1.31	1.8	5.15	
-0.8	0.61	0.62	-1.01	0.36	2.66	
0.47	0.91	0.77	0.36	0.7	0.81	
0.71	-0.82	-1.12	-0.34	-0.45	1.4	
0.87	1.05	0.79	2.43	2.3	1.91	
0.44	1.52	1.86	2.75	2.44	2.13	
0.63	0.3	0.46	2.39	2.81	2.72	
1.44	2.49	2.11	3.45	3.44	5.36	
0.81	3.87	3.38	4.55	4.4	3.7	
0.91	5.91	5.79	6.25	5.75	5.96	
0.7	5.92	6.13	9.27	9.33	9.51	
0.25	9.67	8.92	8.95	7.83	10.07	
-0.21	10.15	10.32	9.11	9.25	10.69	
0.31	12.42	11.81	11.6	13.94	14.3	
3.42	16.01	16.22	17.87	17.71	17.56	
8.86	19.57	19.66	20.74	21.35	19.39	
6.37	21.2	21.1	24.03	23.92	23.57	
5.96	25.18	24.84	25.98	26.98	25.11	
6.79	29.55	27.94	31.19	30.12	26.84	
13.03	28.73	29.07	26.57	30.43	29.32	
17.21	37.69	36.63	30.66	31.17	30.4	
17.29	29.33	30.96	23.87	25.24	25.24	
17.5	25.8	25.78	26.48	24.22	25.61	
11.37	26.43	26.75	23.05	23.01	23.04	
5.44	17.66	11.25	15.88	15.02	19.04	
1.28	9.9	9.21	6.64	10.41	8.33	
-0.31	21.2	17.36	14.88	19.4	16.1	
4.5	28.74	28.87	28.94	29.53	27.85	
0.24	36.39	37.76	33.75	26.33	38.47	
-0.02	36.12	38.2	35.67	35.44	32.41	
-0.34	45.52	38.11	47.25	40.11	40.41	
-5.51	40.95	42.87	40.19	40.55	37.1	
-4.78	34.62	34.25	38.78	40.33	31.86	

132	132	132	132	132	132	132
PIL	PIL	PIL	PIL	PIL	PIL	PIL
2,1, R	2,2, L	2,2, R	3,1, L	3,1, R	3,2, L	
3.17	2.52	2.06	0.12	0.35	3.19	
5.07	1.09	0.41	10.91	10.99	8.12	
2.72	1.06	0.9	5.05	4.63	3.53	
0.67	1.31	1.23	2.04	2.04	0.85	
1.04	-0.47	-0.73	-0.06	-0.49	1.16	
1.37	0.51	0.49	0.96	0.8	1.95	
2.03	1.67	2.18	2.42	2.76	2.05	
2.92	1.38	1.85	2.11	2.38	0.7	
5.13	4.02	4.93	5.01	5.26	4.32	
2.86	3.54	4.05	6.61	6.23	6.58	
5.08	4.56	5.53	6.74	5.92	8.62	
9	7.57	8.21	8.36	8.53	8.31	
9.54	10.06	9.66	10.95	9.46	10.69	
11.21	11.84	10.24	11.74	9.11	11.7	
14.05	14.03	15.56	11.67	14.05	10.1	
16.16	15.98	17.84	18.66	18.21	18.09	
19.46	19.86	20.82	21.5	21.8	20.75	
23.37	22.94	23.7	24.64	25.34	24.09	
24.69	25.32	25.75	25.97	25.74	25.72	
26.84	27.84	27.75	27.44	25.41	28.24	
29.78	29.07	31.29	27.76	29.95	31	
32.61	35.65	34.16	30.19	32.9	35.6	
28.37	25.4	25.22	29.17	30	26.03	
26.65	27	23.9	25.08	25.75	23.23	
25.26	24.87	26.25	24.92	25.3	26.86	
18.53	16.25	12.35	15.36	11.01	17.81	
12.9	10.13	8.76	3.88	8.84	11.11	
17.42	12.74	20.28	11.75	15.38	18.05	
31.71	27.04	34	27.6	29.27	27.6	
33.9	38.37	30.03	35.17	30.08	40.05	
33.42	37.12	37.97	32.92	41.59	35.77	
42.74	42.13	44.37	45.1	44.96	41.28	
45.14	39.89	43.16	41.45	47.37	40.07	
35.75	38.65	41.39	34.47	32.17	37.23	

<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>
<b>3,2, R</b>	<b>4,1, L</b>	<b>4,1, R</b>	<b>4,2, L</b>	<b>4,2, R</b>	<b>5,1, L</b>	
1.81	1.78	2.02	-0.64	-0.16	1.85	
9.64	5.53	6.41	-0.27	-0.35	3.02	
3.62	3.07	3.32	0.64	0.67	2.05	
0.82	1.16	1.27	0.56	0.79	0.95	
0.87	2.14	2.18	0.17	0.06	1.85	
1.99	0.64	0.8	1.04	1.46	0.98	
2.18	1.74	2.38	2.08	3.14	1.93	
0.95	1.44	2.15	2.08	2.9	2.06	
4.96	4.29	5.12	2.34	2.88	4.65	
6.4	1.73	2.73	4.1	4.26	2.81	
8.85	7.32	7.24	3.57	4.48	4.26	
8.61	8.73	9.74	4.72	5.93	8.52	
9.06	9.88	9.53	7.89	6.9	10.05	
12.33	11.75	11.15	8.63	9.5	11.61	
12.34	12.06	12.86	13.25	15.85	14.92	
18.86	17.61	17.65	14.9	15.29	17.63	
21.73	21.13	21.78	19.97	21.26	19.33	
25.13	22.35	23.01	22.51	24.55	23.41	
25.79	23.96	24.56	23.55	24.84	24.84	
26.98	29.63	29.15	28.66	26.74	27.78	
29.09	30.54	31.31	28.22	29.51	28.41	
36.73	35.51	36.76	26.93	28.79	36.43	
28.62	29	30.14	25.58	25.63	31.9	
21.75	19.77	23.11	23.78	24.19	23.8	
26.03	21.93	20.47	23.75	24.62	23.92	
8.81	18.08	15.4	16.18	10.68	17.4	
11.66	13.08	13.2	14.16	10.21	6.98	
21.99	17.2	20.11	15.35	19.09	18.31	
31.13	22.26	28.33	24.42	30.02	28.91	
28.43	34.59	35.92	35.47	25.76	36.81	
39.99	32.52	33.46	36.66	37.17	34.08	
44.3	39.86	49.53	45.62	39.87	42.39	
44.19	38.4	41.92	39.3	43.32	40.84	
29.59	34.73	41.22	34.98	34.87	37.06	

<b>132</b>	<b>132</b>	<b>132</b>	<b>150</b>	<b>150</b>	<b>150</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>
<b>5,1, R</b>	<b>5,2, L</b>	<b>5,2, R</b>	<b>1,1, L</b>	<b>1,1, R</b>	<b>1,2, L</b>
1.81	4.73	5.05	-5.52	-3.5	-7.62
3.77	5.65	5.64	-0.88	-0.96	-5.02
2.46	2.89	3.11	1.29	1.12	-0.52
1.09	0.65	0.85	2.13	2.41	1.85
2.06	0.82	1.26	1.88	2.76	3.23
1.14	1.13	1.6	4.94	4.98	4.93
2.69	1.73	2.13	5.21	5.03	5.4
2.78	0.06	1.23	4.59	4.52	6.55
5.58	3.63	4.88	8.99	9.59	8.22
3.43	4.65	7.1	9.75	9.92	10.57
5.2	5.29	6.67	14.52	14.01	13.47
9.41	7.05	7.42	15.08	15.25	13.84
9.57	10.42	9.05	15.88	16.08	16.37
10.99	10.53	10.25	14.97	17.99	15.72
16.97	11.46	13.19	16.93	15.84	21.62
18.7	17.98	18.79	19.16	19.25	23.7
20.46	20.71	20.05	23.75	23.02	24.33
24.46	22.63	24.98	26.06	26.4	29.14
24.95	24.05	26.16	29.16	30.8	28.74
26.88	27.53	27.39	25.99	29.29	30.33
30.32	30.66	29.91	34.81	34.85	36.83
35.24	36.01	35.78	38.46	39.69	38.82
31.98	20.53	19.29	33.45	33.45	35.05
25.2	23.56	20.77	31.39	32.92	28.37
27.93	21.8	22.58	23.38	30.62	18.34
12.35	10.52	6.18	7.89	17.9	13.47
5.16	13.99	9.62	14.06	16.21	9.37
15.12	14.9	24.51	7.55	6.31	10.9
31.33	26.71	26.79	23.17	23.05	28.35
34.57	34.15	24.27	27.71	28.96	34.34
35.63	35.57	35.48	29.49	25.97	30.42
45.81	37.73	47.44	36.42	37.61	35.99
45.61	39.24	49.5	40.7	42.14	41.02
40.34	37.21	39.41	35.61	35.72	35.96

<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>
<b>1,2, R</b>	<b>2,1, L</b>	<b>2,1, R</b>	<b>2,2, L</b>	<b>2,2, R</b>	<b>3,1, L</b>	
-6.06	-0.99	-2.02	-3.85	-6.03	-4.26	
-3.45	-2.08	-2.91	-2.51	-4.22	-2.28	
-0.22	1.25	0.13	0.9	-0.69	1.2	
1.55	2.16	1.61	1.45	0.98	2.51	
3.58	2.2	1.6	1.28	0.69	3.69	
4.83	5.01	4.81	5.22	5.36	5.54	
5.92	5.47	5.69	6.47	6.35	6.13	
5.71	6.86	6.11	5.47	5.89	7.35	
10.22	9.55	9.01	8.87	9.46	9.64	
11.11	9.62	9.1	10.39	10.22	11.17	
12.87	15.68	15.46	14.83	15.26	13.91	
14.15	15.52	14.87	15.34	13.8	16.3	
16.41	16.38	14.49	15.85	13.1	16.73	
18.77	15.15	15.4	15.42	15.73	15.91	
20.27	20.5	21.57	20.83	20.73	21.21	
23.61	26.16	25.9	23.65	24.72	24.8	
23.64	30.45	30.53	30.51	29.91	23.22	
27.48	31.57	31.84	33.32	34.4	30.14	
28.81	32.93	31.61	28.26	26.75	32.12	
32.14	31.24	30.72	27.7	28.77	29.64	
34.74	35.54	35.73	37.13	35.37	35.36	
41.66	32.31	32.57	40.15	38.93	37.19	
38.06	29.09	32.49	38.66	31.47	34.52	
32.76	26.63	29.95	28.53	28.92	32.92	
26.07	23.94	28.75	19.35	24.31	21.35	
9.65	13.96	15.48	11.26	13.59	4.49	
13.79	14.11	12.79	14.74	12	5.5	
10.31	13.6	9.62	10.29	9.97	10	
25.12	31.65	28.61	26.74	30.05	27	
32.57	31.48	25.89	26.64	28.2	34.74	
27.42	30.63	25.94	23.91	29.46	30.53	
30.25	39.67	33.73	35.77	32.56	35.58	
36.12	39.12	40.84	39.88	39.29	41.43	
36.23	35.59	35.42	37.77	30.5	36.26	

<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>
<b>3,1, R</b>	<b>3,2, L</b>	<b>3,2, R</b>	<b>4,1, L</b>	<b>4,1, R</b>	<b>4,2, L</b>	
-5.5	-2.09	-1.3	-4.59	-5.69	-0.74	
-3.04	-1.42	-1.75	-1.72	-1.64	-0.32	
0.32	1.7	0.96	0.87	0.81	1.66	
2.15	2.19	1.97	1.57	1.57	2.66	
3.79	2.11	2.2	1.29	1.21	5.91	
5.56	6.18	6.14	4.53	5.02	4.53	
6.4	6.27	6.44	5.26	5.93	5.52	
6.64	5.69	5.4	5.91	6.33	6.33	
9.96	9.47	10.47	9.45	9.92	10.04	
10.69	10.62	10.22	9.95	10.18	10.45	
13.83	14.72	15.1	14.25	12.44	12.99	
15.39	16.45	14.89	15.09	14.5	15.59	
15.8	16.9	14.55	16.57	14.02	15.29	
17.64	16.76	16.08	16.11	16.17	14.09	
20.89	21.46	19.23	20.51	22.06	22.48	
24.75	19.81	19.34	25.47	24.82	21.06	
23.04	23.99	23.05	25.04	25.24	28.78	
28.99	29.98	31.08	23.3	22.97	30.36	
32.47	30.72	29.84	28	25.15	29.33	
29.86	26.89	28.3	26.58	27.04	27.95	
33.46	35.09	33.53	35.08	34.49	33.58	
38.77	40.58	38.69	42.12	37.38	35.46	
34.55	32.17	29.11	35.31	32.55	31.75	
33.55	28.13	29.7	27.98	30.96	29.97	
29.41	23.29	24.07	23.19	21.54	17.91	
11.2	7.48	9.66	12.46	9.37	10.74	
9.43	7.25	15.11	11.15	8.45	11.17	
7.92	9.89	9.84	10.09	12.14	4.26	
28.65	24.77	27.93	21.94	24.74	24.64	
30.1	34.3	32.58	33.27	25.45	27.64	
27.46	30.93	28.53	26.92	29.85	27.34	
31.79	37.12	34.78	32.73	31.44	34.87	
39.93	39.35	35.91	40.68	37.34	41.8	
29.08	33.29	31.63	37.33	32.09	36.57	

<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>168</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	
<b>4,2, R</b>	<b>5,1, L</b>	<b>5,1, R</b>	<b>5,2, L</b>	<b>5,2, R</b>	<b>1,1, L</b>	
1.47	-6.56	-6.09	-5.68	-5.7	-11.86	
0.49	-3.32	-2.92	-3.36	-3.83	-7.98	
1.28	0.05	0.34	-0.58	-0.83	-1.74	
2.56	1.05	1.26	1.36	1.29	3.55	
6.2	2.09	2.32	4.03	4.17	6.7	
4.82	4.77	5.07	5.69	6.14	8.14	
6.72	6.21	6.25	5.06	6.18	10.17	
6.51	4.52	5.76	5.66	5.95	13.47	
10.78	8.59	9.37	9.48	10.07	14.18	
10.35	9.2	10.27	10.31	9.5	19.41	
13.36	11.47	12.21	11.78	11.89	23.05	
14.55	13.2	15.21	15.46	14.27	21.85	
13.96	13.09	15.9	15.85	13.91	20.51	
14.75	15.4	17.32	16.57	15.4	23.3	
21.08	18.91	19.88	21.33	17.78	29.83	
21.43	19.77	21.1	26.36	26.04	32.48	
28.98	24.45	27.05	25.02	26.21	38.13	
28.23	29.04	29.02	25.31	26.11	39.25	
29.32	28.53	30.15	26.8	27.45	35.95	
29.62	29.63	29.13	28.23	30.15	34.34	
34.08	34.5	34.91	35.17	34.56	37.25	
37.83	40.29	41.12	40.99	37.74	45.91	
29.1	33.26	34.75	35.14	32.05	41.22	
30.07	30.64	32.85	32	31.55	41.11	
22.65	18.67	23.77	23.26	26.06	41.6	
12.04	9.97	11.32	7.01	12.83	29.82	
13.39	11.84	11.64	11.04	12.19	34.95	
11.75	9.93	9.87	11.3	9.5	32.05	
27.52	28.17	30.19	25.56	28.95	49.82	
26.16	35.2	34.37	32.02	32.01	47.35	
18.4	30.48	29.93	27.01	28.01	42.45	
31.44	39.12	38.17	32.85	41.3	45.39	
39.1	43.28	42.57	41.35	39.39	45.42	
32.94	35.86	35.46	36.08	31.74	47.74	

<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>
<b>1,1, R</b>	<b>1,2, L</b>	<b>1,2, R</b>	<b>2,1, L</b>	<b>2,1, R</b>	<b>2,2, L</b>	
-10.4	-10.46	-9.91	-7.39	-6.96	-8.75	
-6.81	-6.82	-6.2	-7.09	-7.19	-8.4	
-1.13	-1.98	-1.91	-0.11	-2.25	-0.28	
4.02	3.64	3.66	4.25	3.09	4.57	
7.88	6.66	7.05	8.35	6.66	7.42	
9.11	7.23	8.13	8.02	8.23	8.19	
11.16	9.68	10.23	10.77	10.11	10.38	
13.18	11.59	12.17	10.31	10.18	13.54	
17.08	14.07	16.45	15.37	16.27	15.17	
20.29	20.19	19.98	21.76	20.59	21.6	
20.53	24.42	23.37	23.62	20.6	23.58	
19.08	24.02	21.41	24.85	20.55	22.38	
16.91	22.66	19.19	24.5	19.99	20.91	
21.4	21.18	20.36	24.77	19.8	19.29	
28.71	28.6	29.97	27.29	27.27	27.37	
31.08	34.21	33.5	33.61	33.69	33.83	
36.22	38.03	37.01	38.28	37.63	38.38	
38.26	41.16	40.51	39.41	40.27	40.58	
35.37	38.14	37.04	41.4	39.44	36.58	
35.28	35.02	35.73	36.25	37.28	32.1	
37.11	38.34	38.63	37.24	37.62	38.94	
44.47	45.72	47.63	46.27	44.32	43.67	
36	41.95	39.64	43.06	37.97	36.27	
33.29	43.89	40.95	47.57	33.3	33.04	
40.53	37.08	38	42.22	40.97	35.25	
30.27	31.57	29.02	30.9	37.57	33.05	
32.98	33.55	32.33	37.68	35.92	35.24	
31.75	31.68	36.4	31.72	28	28.07	
51.02	46.79	50.14	45.91	45.15	44.48	
45.78	49.35	43.59	51.15	46.45	48.89	
42.06	45.31	40.45	43.5	43.6	43.13	
38.95	45.91	45.53	42.87	41.72	42.23	
39.65	45.4	44.4	44.68	40.99	42.38	
45.34	40.49	41.54	50.86	45.92	41.47	

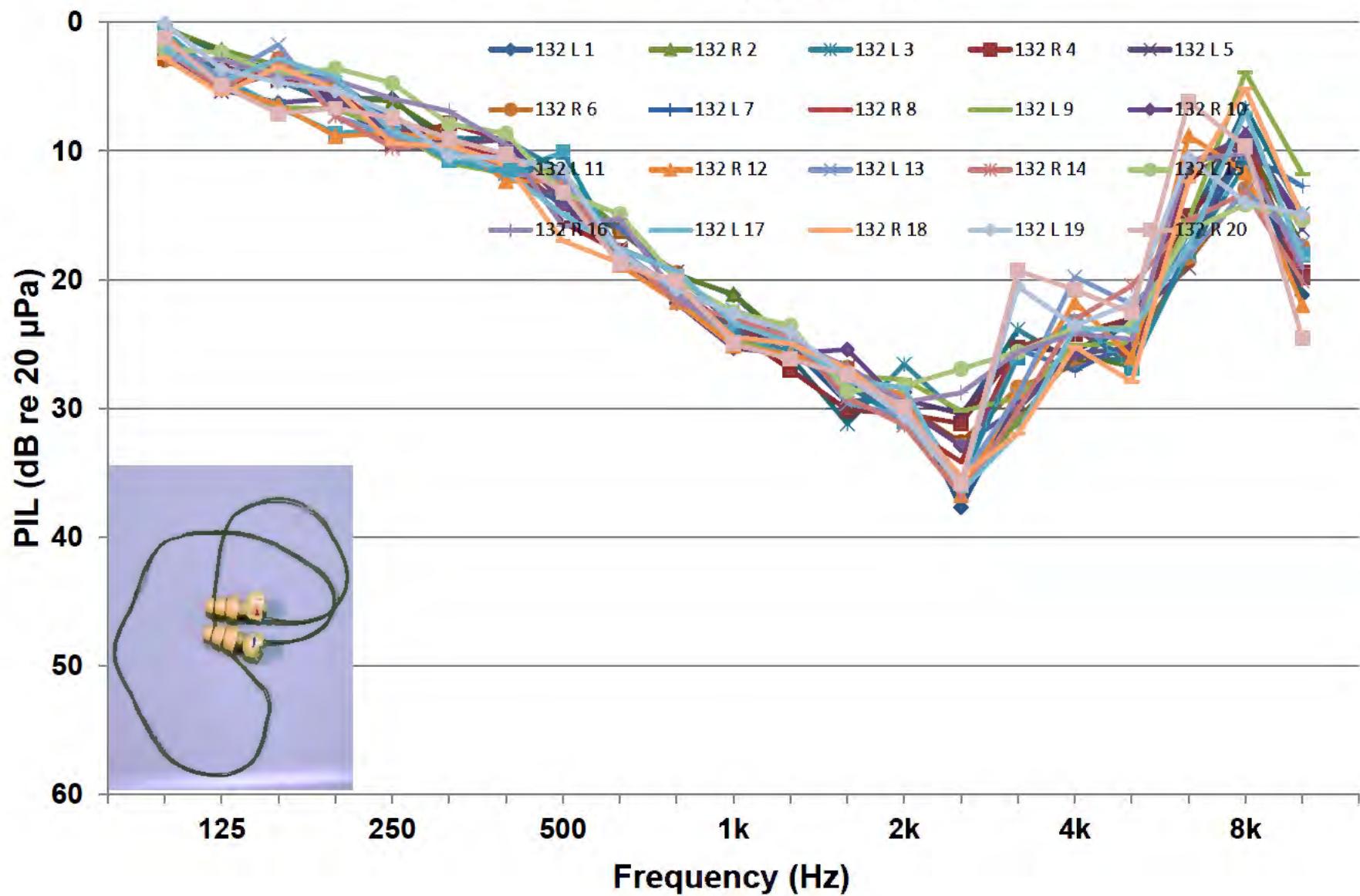
<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>
<b>2,2, R</b>	<b>3,1, L</b>	<b>3,1, R</b>	<b>3,2, L</b>	<b>3,2, R</b>	<b>4,1, L</b>	
-8.52	-10.71	-9.76	-8.82	-8.36	-10.1	
-8.47	-7.15	-6.45	-5.09	-3.89	-6.36	
-2.09	-1.61	-1.75	-0.47	-0.37	-2.77	
3.25	3.42	3.64	3.74	3.85	1.92	
6.06	7.22	7.89	7.16	7.56	5.05	
8.82	8.77	9.53	8.83	9.42	5.75	
10.21	10.77	10.76	11.16	10.83	7.58	
12.65	13.63	13.21	12.23	11.55	8.52	
16.76	16.01	17.41	15.7	16.77	11.73	
19.95	21.77	20.82	19.91	20.99	17.46	
20.76	23.09	19.74	23.75	22.99	21.5	
19.43	24.15	19.62	25.02	23.24	21.12	
17.04	21.48	20.8	24.21	22.06	21.16	
19.86	21.74	25.85	22.7	24.76	21.5	
28.97	30.45	31.94	28.93	30.16	22.14	
32.8	34.3	34.14	35.4	33.79	27.57	
36.95	38.39	36.93	38.39	35.88	33.3	
39.18	39.27	34.34	42.44	40.21	37.51	
37.08	37.89	32.29	40.37	37.16	38.68	
33.71	34.88	29.62	34.6	32.22	33.65	
38.13	36.75	39.2	38.18	37.84	35.97	
43.79	43.89	49.64	47.15	49.69	44.94	
34.56	41.12	42	45.2	43.77	40.71	
29.9	43.26	35.07	50.41	45.9	36.01	
34.99	39.48	29.01	40.39	40.91	35.67	
35.74	29.65	25.76	31.52	31.37	31.62	
35.7	35.19	27.64	29.91	34.91	39.75	
28.84	36.53	28.7	36.39	36.71	27.42	
46.65	51.37	44.84	50.06	52.64	39.81	
45.95	47.39	44.99	49.33	48.96	48.39	
41.44	43.14	40.14	45.75	42.2	39.01	
42.62	43.53	45.28	44.61	43.14	42.07	
40.04	46.82	41.64	43.35	47.09	40.7	
40.35	46.73	35.9	48.1	46.04	38.19	

<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>
<b>4,1, R</b>	<b>4,2, L</b>	<b>4,2, R</b>	<b>5,1, L</b>	<b>5,1, R</b>	<b>5,2, L</b>	
-9.16	-7.52	-6.26	-8.13	-7.06	-10.84	
-5.54	-7.74	-6.85	-8.65	-8.27	-9.98	
-2.43	-0.46	-1.15	-2.85	-2.25	-2.03	
2.24	3.46	2.77	2.37	3.17	2.28	
6	6.83	6.66	6.64	7.68	6.03	
8.35	7.5	7.93	7.77	9.39	7.86	
9.64	10.09	9.61	9.45	10.09	9.99	
9.6	9.92	9.64	11.07	11.23	10.15	
16.29	14.61	15.1	14.01	15.98	14.16	
20.21	20.21	17.74	20.4	20.45	21.28	
23.34	26.02	20.61	23.73	23.26	25.99	
22.73	25.49	18.91	25.56	22.68	25.53	
22.23	24.93	17.48	25.82	22.08	25.74	
23.77	25.85	20.1	26.37	24.37	25.78	
27.91	25.89	22.74	25.35	29.28	27	
32.81	32.39	29.8	32.21	33.85	30.31	
35.85	38.85	37.24	40.07	37.46	37.11	
41.3	39.98	38.59	42.24	41.92	41.74	
41.3	41.95	38.31	41.36	41.47	42.91	
35.34	32.69	35.33	33.77	33.67	36.72	
36.76	36.5	36.04	37.58	37.7	36.77	
47.23	47.71	43.72	49.56	47.46	49.4	
41.98	45.38	40.86	44.81	39.79	48.17	
47.96	48.59	38.52	47.96	44.95	48.27	
44.6	40.16	47.26	38	41.64	36.71	
34.01	29.95	34.8	30.13	39.03	28.95	
34.28	31.64	31.82	37.21	36.71	39.58	
30.04	26.27	30.92	30.73	29.89	28.38	
46.81	43.42	45.17	42.8	49.33	42.07	
49.69	48.01	45.53	50.26	51.52	51.99	
41.01	41.61	42.38	41.18	42.43	40.99	
43.19	44.06	40.87	44.76	46.38	43.27	
38.93	49.64	39.31	45.77	46.04	47.36	
45.28	40.67	42.93	38.24	49.89	40.75	

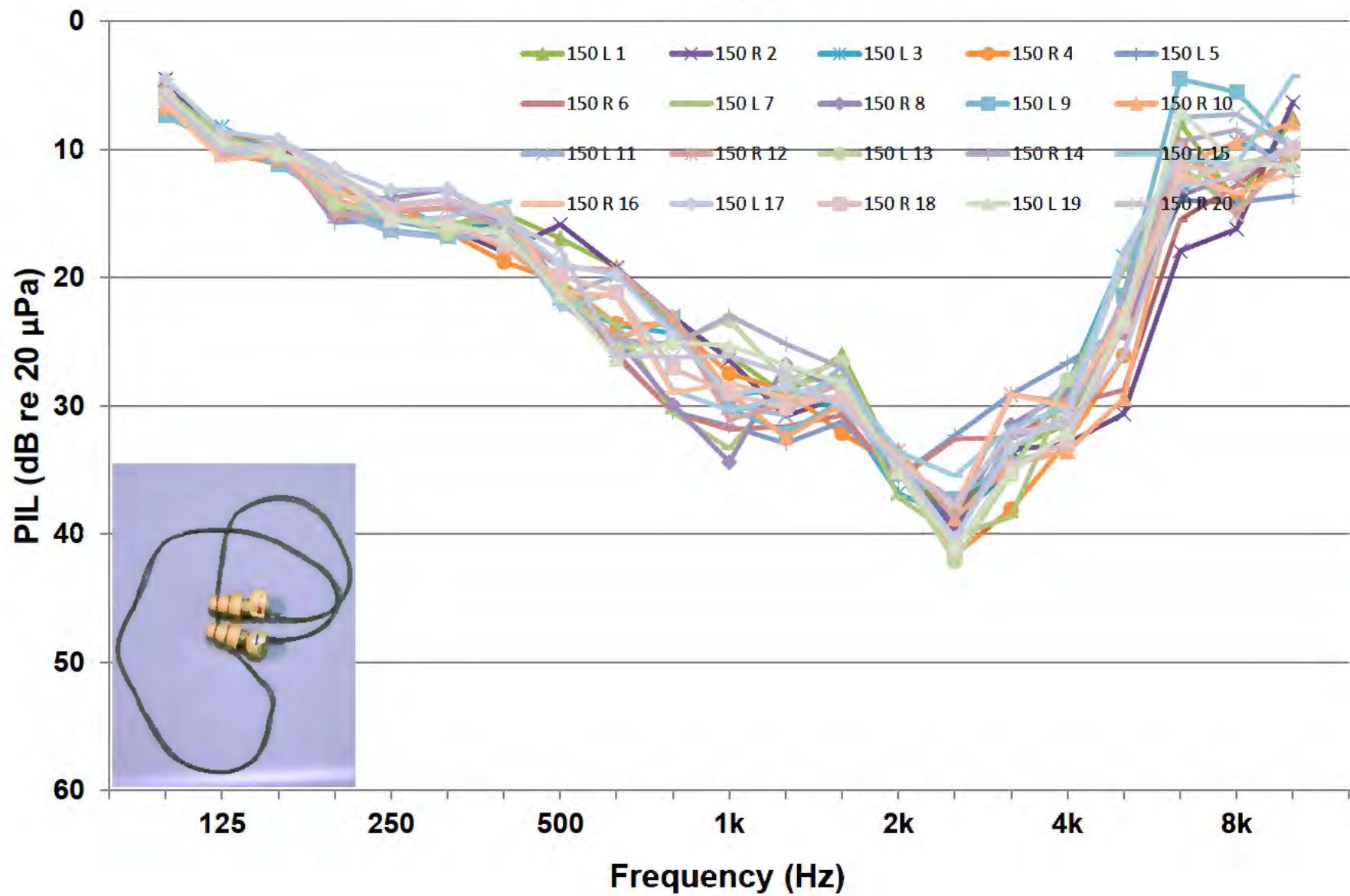
168			132	132	150	150	168
PIL			PIL	PIL	PIL	PIL	PIL
5,2, R			Avg	Std Dev	Avg	Std Dev	Avg
-8.76	20	20	1.7	2.0	-4.1	2.4	-9.0
-8.73	25	25	4.1	3.8	-2.4	1.4	-7.2
-1.5	31.5	31.5	2.1	1.6	0.6	0.8	-1.6
2.92	40	40	1.0	0.4	1.8	0.5	3.3
6.79	50	50	0.5	1.1	2.8	1.5	6.9
9.21	63	63	1.3	0.6	5.2	0.5	8.3
10.47	80						
10.64	100		1.8	0.9	5.9	0.8	11.4
17.04	125	125	4.2	1.1	9.6	0.6	15.5
21.11	160		4.3	1.5	10.2	0.6	20.3
26.03	200		5.9	1.4	13.7	1.3	23.0
22.34	250	250	8.0	1.4	14.9	0.8	22.5
22.15	315		9.4	1.0	15.4	1.2	21.6
22.94	400		10.6	1.1	16.1	1.2	22.8
28.31	500	500	13.3	1.7	20.3	1.7	27.9
33.83	630		17.4	1.2	23.0	2.6	32.8
37.28	800		20.6	0.9	26.0	2.8	37.4
40.33	1000	1k	23.5	1.2	28.7	3.1	39.9
41.56	1250		25.2	0.8	29.3	2.0	38.8
35.39	1600		28.0	1.4	29.0	1.6	34.4
36.76	2000	2k	29.5	1.2	34.9	1.0	37.5
47.49	2500		33.8	3.1	38.5	2.7	46.5
41.55	3150		27.1	3.5	33.3	2.6	41.3
43.71	4000	4k	24.3	1.9	30.5	2.0	41.7
44.42	5000		24.4	2.0	23.5	3.5	39.4
37.98	6300		14.3	3.6	11.1	3.1	32.1
33.9	8000	8k	9.9	2.8	11.8	2.7	34.5
32.99	10000		17.6	3.2	9.8	2.0	31.2
48.96	12500						
50.28	16000	16000	33.5	4.5	30.7	3.3	48.2
43.91	20000	20000	35.9	2.4	27.9	3.0	42.3
45.83	25000	25000	43.2	3.3	35.2	3.1	43.6
45.33	31500	31500	42.1	3.1	40.1	2.0	43.7
50.48	40000	40000	36.4	3.3	34.6	2.4	43.8

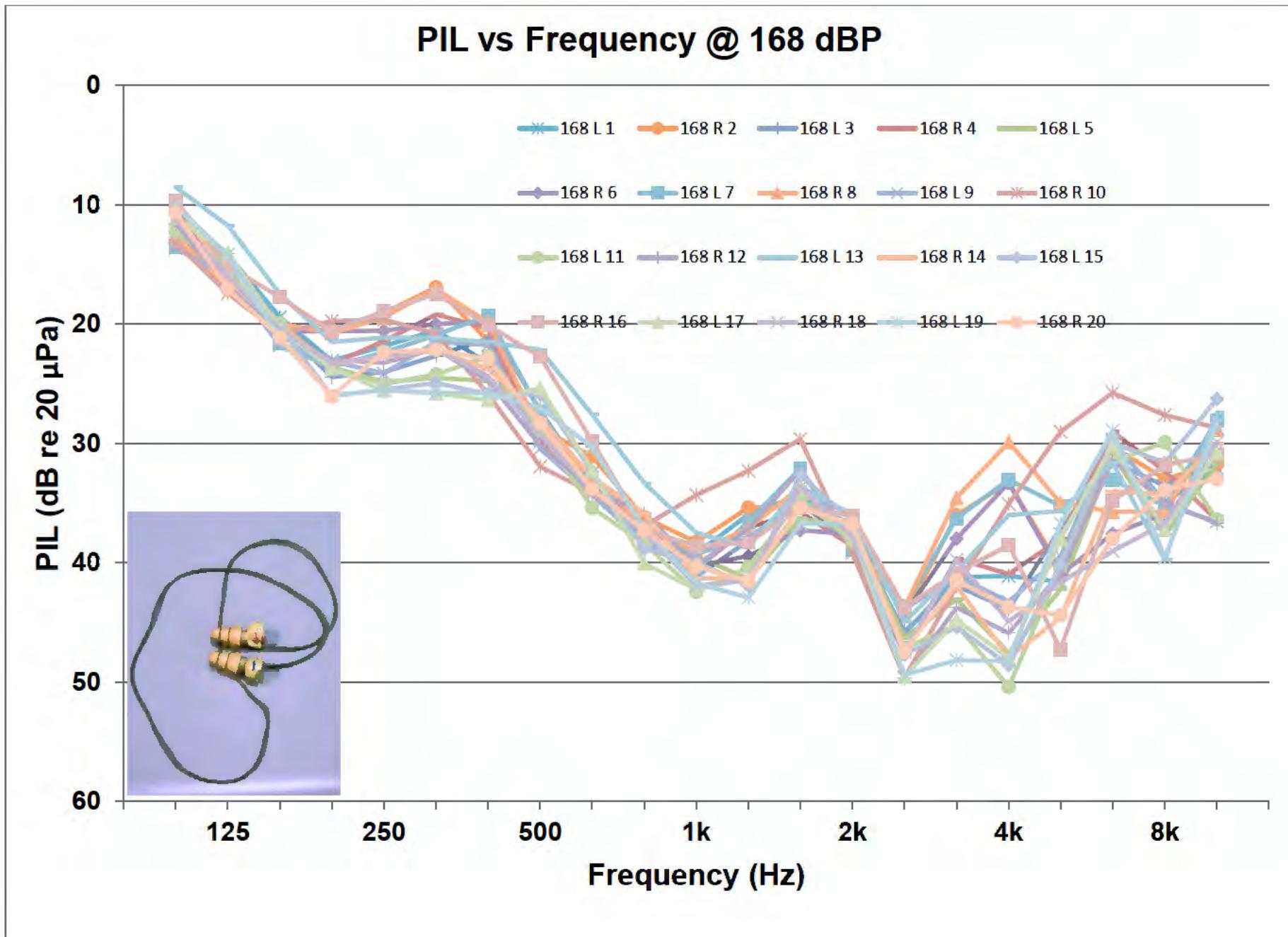
168					
PIL					
Std Dev					
1.5					
1.4					
0.8					
0.7					
0.8					
0.9					
	2.2	0.4	5.9	0.5	10.2
	0.8				
1.5					
1.4					
1.1					
1.9					
2.2					
2.7					
2.3					
2.4					
1.9					
1.4					
1.9					
2.7					
1.8					
0.9					
2.1					
3.4					
6.3					
4.1					
3.4					
3.0					
3.2					
	28.6	2.6	26.8	2.6	46.9
					3.5
2.3					
1.7					
1.9					
3.1					
4.4					

## PIL vs Frequency @ 132-dBPA



## PIL vs Frequency @ 150-dB<sub>P</sub>





Level		132	132	132	132	132	132	132	132	132
Ear		L	R	L	R	L	R	L	R	
Test #		1	2	3	4	5	6	7	8	
100		0.3	0.46	2.39	2.81	2.72	2.92	1.38	1.85	
125	125	2.49	2.11	3.45	3.44	5.36	5.13	4.02	4.93	
160		3.87	3.38	4.55	4.4	3.7	2.86	3.54	4.05	
200		5.91	5.79	6.25	5.75	5.96	5.08	4.56	5.53	
250	250	5.92	6.13	9.27	9.33	9.51	9	7.57	8.21	
315		9.67	8.92	8.95	7.83	10.07	9.54	10.06	9.66	
400		10.15	10.32	9.11	9.25	10.69	11.21	11.84	10.24	
500	500	12.42	11.81	11.6	13.94	14.3	14.05	14.03	15.56	
630		16.01	16.22	17.87	17.71	17.56	16.16	15.98	17.84	
800		19.57	19.66	20.74	21.35	19.39	19.46	19.86	20.82	
1000	1k	21.2	21.1	24.03	23.92	23.57	23.37	22.94	23.7	
1250		25.18	24.84	25.98	26.98	25.11	24.69	25.32	25.75	
1600		29.55	27.94	31.19	30.12	26.84	26.84	27.84	27.75	
2000	2k	28.73	29.07	26.57	30.43	29.32	29.78	29.07	31.29	
2500		37.69	36.63	30.66	31.17	30.4	32.61	35.65	34.16	
3150		29.33	30.96	23.87	25.24	25.24	28.37	25.4	25.22	
4000	4k	25.8	25.78	26.48	24.22	25.61	26.65	27	23.9	
5000		26.43	26.75	23.05	23.01	23.04	25.26	24.87	26.25	
6300		17.66	11.25	15.88	15.02	19.04	18.53	16.25	12.35	
8000	8k	9.9	9.21	6.64	10.41	8.33	12.9	10.13	8.76	
10000		21.2	17.36	14.88	19.4	16.1	17.42	12.74	20.28	
12500		28.74	28.87	28.94	29.53	27.85	31.71	27.04	34	
16000		36.39	37.76	33.75	26.33	38.47	33.9	38.37	30.03	
20000		36.12	38.2	35.67	35.44	32.41	33.42	37.12	37.97	
25000		45.52	38.11	47.25	40.11	40.41	42.74	42.13	44.37	
31500		40.95	42.87	40.19	40.55	37.1	45.14	39.89	43.16	
40000		34.62	34.25	38.78	40.33	31.86	35.75	38.65	41.39	

132	132	132	132	132	132	132	132	132	132	132	132
L	R	L	R	L	R	L	R	L	R	L	R
9	10	11	12	13	14	15	16	17	18		
2.11	2.38	0.7	0.95	1.44	2.15	2.08	2.9	2.06	2.78		
5.01	5.26	4.32	4.96	4.29	5.12	2.34	2.88	4.65	5.58		
6.61	6.23	6.58	6.4	1.73	2.73	4.1	4.26	2.81	3.43		
6.74	5.92	8.62	8.85	7.32	7.24	3.57	4.48	4.26	5.2		
8.36	8.53	8.31	8.61	8.73	9.74	4.72	5.93	8.52	9.41		
10.95	9.46	10.69	9.06	9.88	9.53	7.89	6.9	10.05	9.57		
11.74	9.11	11.7	12.33	11.75	11.15	8.63	9.5	11.61	10.99		
11.67	14.05	10.1	12.34	12.06	12.86	13.25	15.85	14.92	16.97		
18.66	18.21	18.09	18.86	17.61	17.65	14.9	15.29	17.63	18.7		
21.5	21.8	20.75	21.73	21.13	21.78	19.97	21.26	19.33	20.46		
24.64	25.34	24.09	25.13	22.35	23.01	22.51	24.55	23.41	24.46		
25.97	25.74	25.72	25.79	23.96	24.56	23.55	24.84	24.84	24.95		
27.44	25.41	28.24	26.98	29.63	29.15	28.66	26.74	27.78	26.88		
27.76	29.95	31	29.09	30.54	31.31	28.22	29.51	28.41	30.32		
30.19	32.9	35.6	36.73	35.51	36.76	26.93	28.79	36.43	35.24		
29.17	30	26.03	28.62	29	30.14	25.58	25.63	31.9	31.98		
25.08	25.75	23.23	21.75	19.77	23.11	23.78	24.19	23.8	25.2		
24.92	25.3	26.86	26.03	21.93	20.47	23.75	24.62	23.92	27.93		
15.36	11.01	17.81	8.81	18.08	15.4	16.18	10.68	17.4	12.35		
3.88	8.84	11.11	11.66	13.08	13.2	14.16	10.21	6.98	5.16		
11.75	15.38	18.05	21.99	17.2	20.11	15.35	19.09	18.31	15.12		
27.6	29.27	27.6	31.13	22.26	28.33	24.42	30.02	28.91	31.33		
35.17	30.08	40.05	28.43	34.59	35.92	35.47	25.76	36.81	34.57		
32.92	41.59	35.77	39.99	32.52	33.46	36.66	37.17	34.08	35.63		
45.1	44.96	41.28	44.3	39.86	49.53	45.62	39.87	42.39	45.81		
41.45	47.37	40.07	44.19	38.4	41.92	39.3	43.32	40.84	45.61		
34.47	32.17	37.23	29.59	34.73	41.22	34.98	34.87	37.06	40.34		

132	132	150	150	150	150	150	150	150	150	150	150
L	R	L	R	L	R	L	R	L	R	L	R
19	20	1	2	3	4	5	6	7	8		
0.06	1.23	4.59	4.52	6.55	5.71	6.86	6.11	5.47	5.89		
3.63	4.88	8.99	9.59	8.22	10.22	9.55	9.01	8.87	9.46		
4.65	7.1	9.75	9.92	10.57	11.11	9.62	9.1	10.39	10.22		
5.29	6.67	14.52	14.01	13.47	12.87	15.68	15.46	14.83	15.26		
7.05	7.42	15.08	15.25	13.84	14.15	15.52	14.87	15.34	13.8		
10.42	9.05	15.88	16.08	16.37	16.41	16.38	14.49	15.85	13.1		
10.53	10.25	14.97	17.99	15.72	18.77	15.15	15.4	15.42	15.73		
11.46	13.19	16.93	15.84	21.62	20.27	20.5	21.57	20.83	20.73		
17.98	18.79	19.16	19.25	23.7	23.61	26.16	25.9	23.65	24.72		
20.71	20.05	23.75	23.02	24.33	23.64	30.45	30.53	30.51	29.91		
22.63	24.98	26.06	26.4	29.14	27.48	31.57	31.84	33.32	34.4		
24.05	26.16	29.16	30.8	28.74	28.81	32.93	31.61	28.26	26.75		
27.53	27.39	25.99	29.29	30.33	32.14	31.24	30.72	27.7	28.77		
30.66	29.91	34.81	34.85	36.83	34.74	35.54	35.73	37.13	35.37		
36.01	35.78	38.46	39.69	38.82	41.66	32.31	32.57	40.15	38.93		
20.53	19.29	33.45	33.45	35.05	38.06	29.09	32.49	38.66	31.47		
23.56	20.77	31.39	32.92	28.37	32.76	26.63	29.95	28.53	28.92		
21.8	22.58	23.38	30.62	18.34	26.07	23.94	28.75	19.35	24.31		
10.52	6.18	7.89	17.9	13.47	9.65	13.96	15.48	11.26	13.59		
13.99	9.62	14.06	16.21	9.37	13.79	14.11	12.79	14.74	12		
14.9	24.51	7.55	6.31	10.9	10.31	13.6	9.62	10.29	9.97		
26.71	26.79	23.17	23.05	28.35	25.12	31.65	28.61	26.74	30.05		
34.15	24.27	27.71	28.96	34.34	32.57	31.48	25.89	26.64	28.2		
35.57	35.48	29.49	25.97	30.42	27.42	30.63	25.94	23.91	29.46		
37.73	47.44	36.42	37.61	35.99	30.25	39.67	33.73	35.77	32.56		
39.24	49.5	40.7	42.14	41.02	36.12	39.12	40.84	39.88	39.29		
37.21	39.41	35.61	35.72	35.96	36.23	35.59	35.42	37.77	30.5		

150	150	150	150	150	150	150	150	150	150	150	150
L	R	L	R	L	R	L	R	L	R	L	R
9	10	11	12	13	14	15	16	17	18		
7.35	6.64	5.69	5.4	5.91	6.33	6.33	6.51	4.52	5.76		
9.64	9.96	9.47	10.47	9.45	9.92	10.04	10.78	8.59	9.37		
11.17	10.69	10.62	10.22	9.95	10.18	10.45	10.35	9.2	10.27		
13.91	13.83	14.72	15.1	14.25	12.44	12.99	13.36	11.47	12.21		
16.3	15.39	16.45	14.89	15.09	14.5	15.59	14.55	13.2	15.21		
16.73	15.8	16.9	14.55	16.57	14.02	15.29	13.96	13.09	15.9		
15.91	17.64	16.76	16.08	16.11	16.17	14.09	14.75	15.4	17.32		
21.21	20.89	21.46	19.23	20.51	22.06	22.48	21.08	18.91	19.88		
24.8	24.75	19.81	19.34	25.47	24.82	21.06	21.43	19.77	21.1		
23.22	23.04	23.99	23.05	25.04	25.24	28.78	28.98	24.45	27.05		
30.14	28.99	29.98	31.08	23.3	22.97	30.36	28.23	29.04	29.02		
32.12	32.47	30.72	29.84	28	25.15	29.33	29.32	28.53	30.15		
29.64	29.86	26.89	28.3	26.58	27.04	27.95	29.62	29.63	29.13		
35.36	33.46	35.09	33.53	35.08	34.49	33.58	34.08	34.5	34.91		
37.19	38.77	40.58	38.69	42.12	37.38	35.46	37.83	40.29	41.12		
34.52	34.55	32.17	29.11	35.31	32.55	31.75	29.1	33.26	34.75		
32.92	33.55	28.13	29.7	27.98	30.96	29.97	30.07	30.64	32.85		
21.35	29.41	23.29	24.07	23.19	21.54	17.91	22.65	18.67	23.77		
4.49	11.2	7.48	9.66	12.46	9.37	10.74	12.04	9.97	11.32		
5.5	9.43	7.25	15.11	11.15	8.45	11.17	13.39	11.84	11.64		
10	7.92	9.89	9.84	10.09	12.14	4.26	11.75	9.93	9.87		
27	28.65	24.77	27.93	21.94	24.74	24.64	27.52	28.17	30.19		
34.74	30.1	34.3	32.58	33.27	25.45	27.64	26.16	35.2	34.37		
30.53	27.46	30.93	28.53	26.92	29.85	27.34	18.4	30.48	29.93		
35.58	31.79	37.12	34.78	32.73	31.44	34.87	31.44	39.12	38.17		
41.43	39.93	39.35	35.91	40.68	37.34	41.8	39.1	43.28	42.57		
36.26	29.08	33.29	31.63	37.33	32.09	36.57	32.94	35.86	35.46		

150	150	168	168	168	168	168	168	168	168	168	168
L	R	L	R	L	R	L	R	L	R	L	R
19	20	1	2	3	4	5	6	7	8		
5.66	5.95	13.47	13.18	11.59	12.17	10.31	10.18	13.54	12.65		
9.48	10.07	14.18	17.08	14.07	16.45	15.37	16.27	15.17	16.76		
10.31	9.5	19.41	20.29	20.19	19.98	21.76	20.59	21.6	19.95		
11.78	11.89	23.05	20.53	24.42	23.37	23.62	20.6	23.58	20.76		
15.46	14.27	21.85	19.08	24.02	21.41	24.85	20.55	22.38	19.43		
15.85	13.91	20.51	16.91	22.66	19.19	24.5	19.99	20.91	17.04		
16.57	15.4	23.3	21.4	21.18	20.36	24.77	19.8	19.29	19.86		
21.33	17.78	29.83	28.71	28.6	29.97	27.29	27.27	27.37	28.97		
26.36	26.04	32.48	31.08	34.21	33.5	33.61	33.69	33.83	32.8		
25.02	26.21	38.13	36.22	38.03	37.01	38.28	37.63	38.38	36.95		
25.31	26.11	39.25	38.26	41.16	40.51	39.41	40.27	40.58	39.18		
26.8	27.45	35.95	35.37	38.14	37.04	41.4	39.44	36.58	37.08		
28.23	30.15	34.34	35.28	35.02	35.73	36.25	37.28	32.1	33.71		
35.17	34.56	37.25	37.11	38.34	38.63	37.24	37.62	38.94	38.13		
40.99	37.74	45.91	44.47	45.72	47.63	46.27	44.32	43.67	43.79		
35.14	32.05	41.22	36	41.95	39.64	43.06	37.97	36.27	34.56		
32	31.55	41.11	33.29	43.89	40.95	47.57	33.3	33.04	29.9		
23.26	26.06	41.6	40.53	37.08	38	42.22	40.97	35.25	34.99		
7.01	12.83	29.82	30.27	31.57	29.02	30.9	37.57	33.05	35.74		
11.04	12.19	34.95	32.98	33.55	32.33	37.68	35.92	35.24	35.7		
11.3	9.5	32.05	31.75	31.68	36.4	31.72	28	28.07	28.84		
25.56	28.95	49.82	51.02	46.79	50.14	45.91	45.15	44.48	46.65		
32.02	32.01	47.35	45.78	49.35	43.59	51.15	46.45	48.89	45.95		
27.01	28.01	42.45	42.06	45.31	40.45	43.5	43.6	43.13	41.44		
32.85	41.3	45.39	38.95	45.91	45.53	42.87	41.72	42.23	42.62		
41.35	39.39	45.42	39.65	45.4	44.4	44.68	40.99	42.38	40.04		
36.08	31.74	47.74	45.34	40.49	41.54	50.86	45.92	41.47	40.35		

168		168		168		168		168		168		168		168	
L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R
9	10	11	12	13	14	15	16	17	18						
13.63	13.21	12.23	11.55	8.52	9.6	9.92	9.64	11.07	11.23						
16.01	17.41	15.7	16.77	11.73	16.29	14.61	15.1	14.01	15.98						
21.77	20.82	19.91	20.99	17.46	20.21	20.21	17.74	20.4	20.45						
23.09	19.74	23.75	22.99	21.5	23.34	26.02	20.61	23.73	23.26						
24.15	19.62	25.02	23.24	21.12	22.73	25.49	18.91	25.56	22.68						
21.48	20.8	24.21	22.06	21.16	22.23	24.93	17.48	25.82	22.08						
21.74	25.85	22.7	24.76	21.5	23.77	25.85	20.1	26.37	24.37						
30.45	31.94	28.93	30.16	22.14	27.91	25.89	22.74	25.35	29.28						
34.3	34.14	35.4	33.79	27.57	32.81	32.39	29.8	32.21	33.85						
38.39	36.93	38.39	35.88	33.3	35.85	38.85	37.24	40.07	37.46						
39.27	34.34	42.44	40.21	37.51	41.3	39.98	38.59	42.24	41.92						
37.89	32.29	40.37	37.16	38.68	41.3	41.95	38.31	41.36	41.47						
34.88	29.62	34.6	32.22	33.65	35.34	32.69	35.33	33.77	33.67						
36.75	39.2	38.18	37.84	35.97	36.76	36.5	36.04	37.58	37.7						
43.89	49.64	47.15	49.69	44.94	47.23	47.71	43.72	49.56	47.46						
41.12	42	45.2	43.77	40.71	41.98	45.38	40.86	44.81	39.79						
43.26	35.07	50.41	45.9	36.01	47.96	48.59	38.52	47.96	44.95						
39.48	29.01	40.39	40.91	35.67	44.6	40.16	47.26	38	41.64						
29.65	25.76	31.52	31.37	31.62	34.01	29.95	34.8	30.13	39.03						
35.19	27.64	29.91	34.91	39.75	34.28	31.64	31.82	37.21	36.71						
36.53	28.7	36.39	36.71	27.42	30.04	26.27	30.92	30.73	29.89						
51.37	44.84	50.06	52.64	39.81	46.81	43.42	45.17	42.8	49.33						
47.39	44.99	49.33	48.96	48.39	49.69	48.01	45.53	50.26	51.52						
43.14	40.14	45.75	42.2	39.01	41.01	41.61	42.38	41.18	42.43						
43.53	45.28	44.61	43.14	42.07	43.19	44.06	40.87	44.76	46.38						
46.82	41.64	43.35	47.09	40.7	38.93	49.64	39.31	45.77	46.04						
46.73	35.9	48.1	46.04	38.19	45.28	40.67	42.93	38.24	49.89						

168	168									
L	R									
19	20									
10.15	10.64	100		1.7835	0.916919	5.8875	0.757314	11.424	1.538114	
14.16	17.04	125	125	4.1925	1.088925	9.5575	0.626274	15.508	1.404113	
21.28	21.11	160		4.349	1.50175	10.1795	0.55408	20.306	1.130395	
25.99	26.03	200		5.9495	1.355796	13.7025	1.297069	22.999	1.876068	
25.53	22.34	250	250	8.0135	1.408442	14.9375	0.817434	22.498	2.232352	
25.74	22.15	315		9.4075	0.987255	15.3565	1.217548	21.5925	2.657654	
25.78	22.94	400		10.605	1.078705	16.0675	1.158347	22.7845	2.319695	
27	28.31	500	500	13.3215	1.710587	20.2555	1.728399	27.9055	2.444878	
30.31	33.83	630		17.386	1.193894	23.045	2.630752	32.78	1.850439	
37.11	37.28	800		20.566	0.854261	26.0105	2.810702	37.369	1.405036	
41.74	40.33	1000	1k	23.5465	1.193223	28.737	3.066742	39.9245	1.875	
42.91	41.56	1250		25.199	0.834467	29.347	2.040217	38.8125	2.72856	
36.72	35.39	1600		27.995	1.374074	28.96	1.623268	34.3795	1.788921	
36.77	36.76	2000	2k	29.547	1.229074	34.9405	0.950974	37.4655	0.914886	
49.4	47.49	2500		33.792	3.111009	38.5375	2.664711	46.483	2.122702	
48.17	41.55	3150		27.075	3.477279	33.299	2.613779	41.3005	3.383652	
48.27	43.71	4000	4k	24.2715	1.926517	30.4895	1.990579	41.683	6.331539	
36.71	44.42	5000		24.4385	1.975778	23.4965	3.519978	39.4445	4.068172	
28.95	37.98	6300		14.288	3.640054	11.0885	3.108838	32.1355	3.426395	
39.58	33.9	8000	8k	9.9085	2.839126	11.7615	2.730753	34.5445	3.011736	
28.38	32.99	10000		17.557	3.168631	9.752	2.044347	31.174	3.238134	
42.07	48.96	12500		28.5525	2.573758	26.84	2.628123	46.862	3.469929	
51.99	50.28	16000	16000	33.5135	4.531923	30.6815	3.322027	48.2425	2.323941	
40.99	43.91	20000	20000	35.8595	2.416114	27.9315	2.956335	42.2845	1.669388	
43.27	45.83	25000	25000	43.2265	3.267681	35.1595	3.06823	43.6105	1.908131	
47.36	45.33	31500	31500	42.053	3.118313	40.062	1.965924	43.747	3.110707	
40.75	50.48	40000	40000	36.4455	3.281465	34.5565	2.429038	43.8455	4.390374	

	Free Field Peak Level [dB]	Left Peak Level [dB]	Right Peak Level [dB]	A-Duration [ms]
Pcal,1,132	130.8	134.4	135.9	0.68
Pcal,2,132	133.9	137.2	137.6	0.48
Pcal,3,132	131.5	135.1	136.2	0.44
Pcal,4,132	134	135.9	137.6	0.32
Pcal,5,132	133.1	135.9	136.4	0.46
Pcal,6,132	131	134.3	135.4	0.38
Pcal,1,150	149	154.7	155.7	1.26
Pcal,2,150	148.1	153.2	154.3	1.14
Pcal,3,150	149.5	152.5	153.6	1.14
Pcal,4,150	148.8	153	154.1	1.16
Pcal,5,150	149.3	154.6	155.6	1.18
Pcal,6,150	148.9	153.3	154.4	1.18
Pcal,1,168	168.5	179.4	179.8	0.99
Pcal,2,168	169	179.6	179.9	1.01
Pcal,3,168	169.2	179.2	179.7	0.95
Pcal,4,168	169.5	179.4	179.7	0.95
Pcal,5,168	168.8	179.4	179.8	0.95
Pcal,6,168	169	179.4	179.8	0.99

B-Duration [ms]	C-Duration [ms]	D-Duration [ms]	A Duration Onset Level (% of Peak Level)
28.09	1.93	6.58	50.00%
35.72	1.2	6.97	
35.67	2.39	7.38	
36.46	0.76	6.95	
36.04	0.85	7.16	
46.76	2.56	8.19	
19.31	1.04	2.9	
20.93	1.02	3.92	
17.26	0.87	3.28	
16.05	0.96	3.5	
15.89	0.95	2.73	
20.67	1.09	3.25	
5.02	0.82	1.29	
4.95	0.78	1.28	
4.87	0.78	1.34	
5.07	0.75	1.31	
5.14	0.8	1.29	
3.67	0.79	1.27	

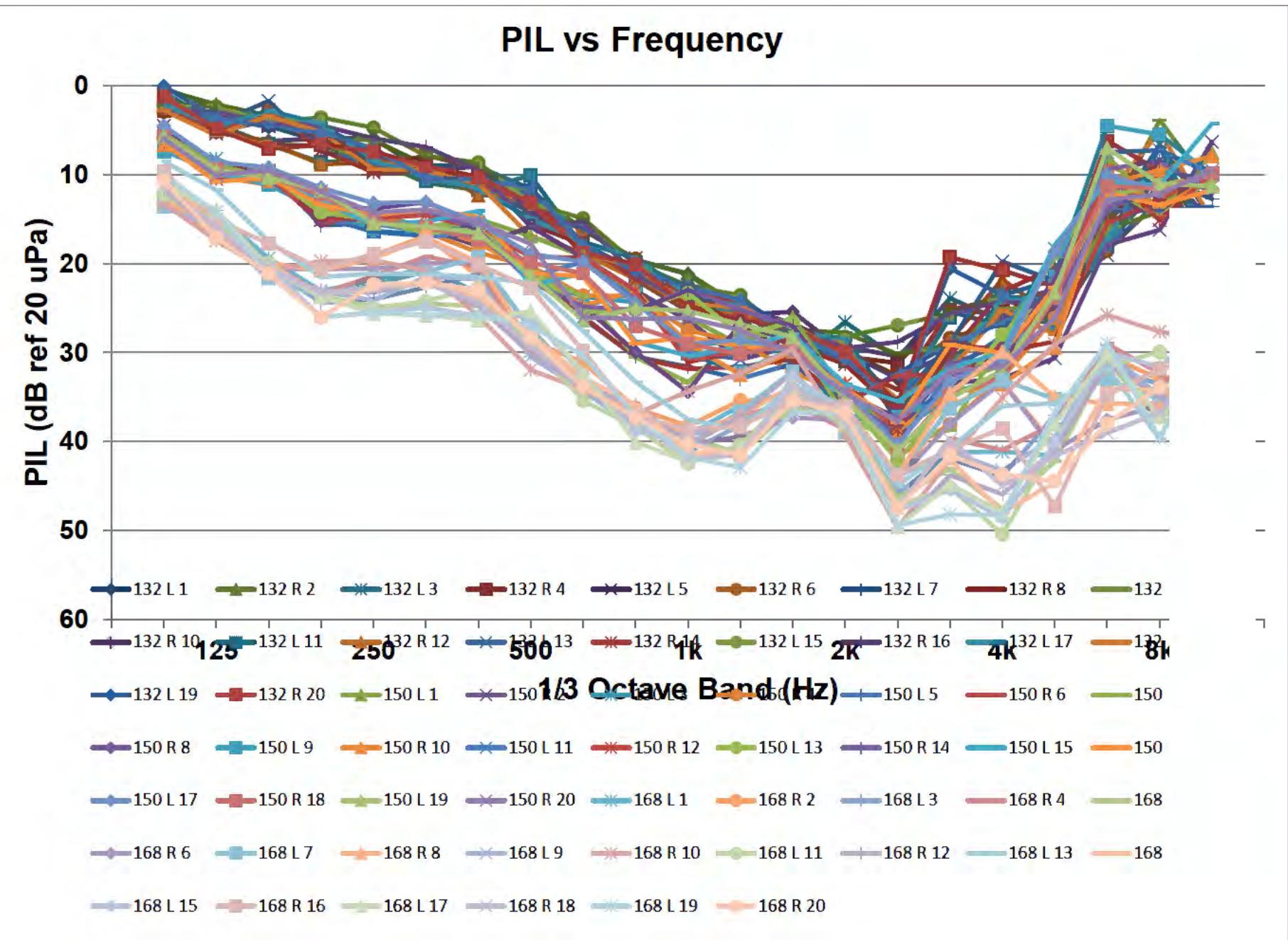
	Left Measured Pe	Left Estimated Pe	Right Measured P	Right Estimated Peak Level [dB]
PFF-cal,1,132	134.4	132.8	135.9	135.1
PFF-cal,2,132	137.2	134.6	137.6	135.7
PFF-cal,3,132	135.1	133.1	136.2	133.7
PFF-cal,4,132	135.9	135.4	137.6	136.1
PFF-cal,5,132	135.9	134.5	136.4	135.8
PFF-cal,6,132	134.3	133	135.4	134.3
PFF-cal,1,150	154.7	153.6	155.7	154.9
PFF-cal,2,150	153.2	152.8	154.3	153.7
PFF-cal,3,150	152.5	152.4	153.6	153.6
PFF-cal,4,150	153	152.5	154.1	153.7
PFF-cal,5,150	154.6	154.1	155.6	155.2
PFF-cal,6,150	153.3	152.7	154.4	154
PFF-cal,1,168	179.4	179.6	179.8	179.8
PFF-cal,2,168	179.6	179.5	179.9	179.9
PFF-cal,3,168	179.2	179.5	179.7	179.8
PFF-cal,4,168	179.4	179.2	179.7	179.6
PFF-cal,5,168	179.4	179.2	179.8	179.6
PFF-cal,6,168	179.4	179.6	179.8	179.9

	132 dB Left	132 dB Right	150 dB Left	150 dB Right	168 dB Left
Calibration 1	-1.6	-1.7	-0.4	-0.2	-0.1
Calibration 2	-1.4	-1.2	0	-0.4	0.3
Calibration 3	-1.4	-1.5	-0.4	-0.5	0
Calibration 4	-1.3	-1.2	-0.2	-0.2	-0.4
Calibration 5	-1.4	-1.5	-0.3	-0.4	-0.3
Calibration 6	-1.3	-1.6	-0.2	-0.3	-0.4

168 dB Right
-0.2
-0.1
-0.2
-0.2
-0.1
-0.2

132 dB Overall Average PIL	10.1
150 dB Overall Average PIL	20.7
168 dB Overall Average PIL	35.9





Level	132		132		132		132		132		132	
Ear	L	R	L	R	L	R	L	R	L	R	L	
Test #	1	2	3	4	5	6	7	8	9			
20	1.01	1.82	-3.69	1.8	3.7	3.17	2.52	2.06	0.12			
25	0.5	0.43	-1.31	1.8	5.15	5.07	1.09	0.41	10.91			
31.5	0.61	0.62	-1.01	0.36	2.66	2.72	1.06	0.9	5.05			
40	0.91	0.77	0.36	0.7	0.81	0.67	1.31	1.23	2.04			
50	-0.82	-1.12	-0.34	-0.45	1.4	1.04	-0.47	-0.73	-0.06			
63	1.05	0.79	2.43	2.3	1.91	1.37	0.51	0.49	0.96			
80	1.52	1.86	2.75	2.44	2.13	2.03	1.67	2.18	2.42			
100	0.3	0.46	2.39	2.81	2.72	2.92	1.38	1.85	2.11			
125	2.49	2.11	3.45	3.44	5.36	5.13	4.02	4.93	5.01			
160	3.87	3.38	4.55	4.4	3.7	2.86	3.54	4.05	6.61			
200	5.91	5.79	6.25	5.75	5.96	5.08	4.56	5.53	6.74			
250	5.92	6.13	9.27	9.33	9.51	9	7.57	8.21	8.36			
315	9.67	8.92	8.95	7.83	10.07	9.54	10.06	9.66	10.95			
400	10.15	10.32	9.11	9.25	10.69	11.21	11.84	10.24	11.74			
500	12.42	11.81	11.6	13.94	14.3	14.05	14.03	15.56	11.67			
630	16.01	16.22	17.87	17.71	17.56	16.16	15.98	17.84	18.66			
800	19.57	19.66	20.74	21.35	19.39	19.46	19.86	20.82	21.5			
1000	21.2	21.1	24.03	23.92	23.57	23.37	22.94	23.7	24.64			
1250	25.18	24.84	25.98	26.98	25.11	24.69	25.32	25.75	25.97			
1600	29.55	27.94	31.19	30.12	26.84	26.84	27.84	27.75	27.44			
2000	28.73	29.07	26.57	30.43	29.32	29.78	29.07	31.29	27.76			
2500	37.69	36.63	30.66	31.17	30.4	32.61	35.65	34.16	30.19			
3150	29.33	30.96	23.87	25.24	25.24	28.37	25.4	25.22	29.17			
4000	25.8	25.78	26.48	24.22	25.61	26.65	27	23.9	25.08			
5000	26.43	26.75	23.05	23.01	23.04	25.26	24.87	26.25	24.92			
6300	17.66	11.25	15.88	15.02	19.04	18.53	16.25	12.35	15.36			
8000	9.9	9.21	6.64	10.41	8.33	12.9	10.13	8.76	3.88			
10000	21.2	17.36	14.88	19.4	16.1	17.42	12.74	20.28	11.75			
12500	28.74	28.87	28.94	29.53	27.85	31.71	27.04	34	27.6			
16000	36.39	37.76	33.75	26.33	38.47	33.9	38.37	30.03	35.17			
20000	36.12	38.2	35.67	35.44	32.41	33.42	37.12	37.97	32.92			
25000	45.52	38.11	47.25	40.11	40.41	42.74	42.13	44.37	45.1			
31500	40.95	42.87	40.19	40.55	37.1	45.14	39.89	43.16	41.45			
40000	34.62	34.25	38.78	40.33	31.86	35.75	38.65	41.39	34.47			

132	132	132	132	132	132	132	132	132	132	132	132
R	L	R	L	R	L	R	L	R	R	L	L
10	11	12	13	14	15	16	17	18	19		
0.35	3.19	1.81	1.78	2.02	-0.64	-0.16	1.85	1.81	4.73		
10.99	8.12	9.64	5.53	6.41	-0.27	-0.35	3.02	3.77	5.65		
4.63	3.53	3.62	3.07	3.32	0.64	0.67	2.05	2.46	2.89		
2.04	0.85	0.82	1.16	1.27	0.56	0.79	0.95	1.09	0.65		
-0.49	1.16	0.87	2.14	2.18	0.17	0.06	1.85	2.06	0.82		
0.8	1.95	1.99	0.64	0.8	1.04	1.46	0.98	1.14	1.13		
2.76	2.05	2.18	1.74	2.38	2.08	3.14	1.93	2.69	1.73		
2.38	0.7	0.95	1.44	2.15	2.08	2.9	2.06	2.78	0.06		
5.26	4.32	4.96	4.29	5.12	2.34	2.88	4.65	5.58	3.63		
6.23	6.58	6.4	1.73	2.73	4.1	4.26	2.81	3.43	4.65		
5.92	8.62	8.85	7.32	7.24	3.57	4.48	4.26	5.2	5.29		
8.53	8.31	8.61	8.73	9.74	4.72	5.93	8.52	9.41	7.05		
9.46	10.69	9.06	9.88	9.53	7.89	6.9	10.05	9.57	10.42		
9.11	11.7	12.33	11.75	11.15	8.63	9.5	11.61	10.99	10.53		
14.05	10.1	12.34	12.06	12.86	13.25	15.85	14.92	16.97	11.46		
18.21	18.09	18.86	17.61	17.65	14.9	15.29	17.63	18.7	17.98		
21.8	20.75	21.73	21.13	21.78	19.97	21.26	19.33	20.46	20.71		
25.34	24.09	25.13	22.35	23.01	22.51	24.55	23.41	24.46	22.63		
25.74	25.72	25.79	23.96	24.56	23.55	24.84	24.84	24.95	24.05		
25.41	28.24	26.98	29.63	29.15	28.66	26.74	27.78	26.88	27.53		
29.95	31	29.09	30.54	31.31	28.22	29.51	28.41	30.32	30.66		
32.9	35.6	36.73	35.51	36.76	26.93	28.79	36.43	35.24	36.01		
30	26.03	28.62	29	30.14	25.58	25.63	31.9	31.98	20.53		
25.75	23.23	21.75	19.77	23.11	23.78	24.19	23.8	25.2	23.56		
25.3	26.86	26.03	21.93	20.47	23.75	24.62	23.92	27.93	21.8		
11.01	17.81	8.81	18.08	15.4	16.18	10.68	17.4	12.35	10.52		
8.84	11.11	11.66	13.08	13.2	14.16	10.21	6.98	5.16	13.99		
15.38	18.05	21.99	17.2	20.11	15.35	19.09	18.31	15.12	14.9		
29.27	27.6	31.13	22.26	28.33	24.42	30.02	28.91	31.33	26.71		
30.08	40.05	28.43	34.59	35.92	35.47	25.76	36.81	34.57	34.15		
41.59	35.77	39.99	32.52	33.46	36.66	37.17	34.08	35.63	35.57		
44.96	41.28	44.3	39.86	49.53	45.62	39.87	42.39	45.81	37.73		
47.37	40.07	44.19	38.4	41.92	39.3	43.32	40.84	45.61	39.24		
32.17	37.23	29.59	34.73	41.22	34.98	34.87	37.06	40.34	37.21		

132	150	150	150	150	150	150	150	150	150	150	150
R	L	R	L	R	L	R	L	R	L	R	L
20	1	2	3	4	5	6	7	8	9		
5.05	-5.52	-3.5	-7.62	-6.06	-0.99	-2.02	-3.85	-6.03	-4.26		
5.64	-0.88	-0.96	-5.02	-3.45	-2.08	-2.91	-2.51	-4.22	-2.28		
3.11	1.29	1.12	-0.52	-0.22	1.25	0.13	0.9	-0.69	1.2		
0.85	2.13	2.41	1.85	1.55	2.16	1.61	1.45	0.98	2.51		
1.26	1.88	2.76	3.23	3.58	2.2	1.6	1.28	0.69	3.69		
1.6	4.94	4.98	4.93	4.83	5.01	4.81	5.22	5.36	5.54		
2.13	5.21	5.03	5.4	5.92	5.47	5.69	6.47	6.35	6.13		
1.23	4.59	4.52	6.55	5.71	6.86	6.11	5.47	5.89	7.35		
4.88	8.99	9.59	8.22	10.22	9.55	9.01	8.87	9.46	9.64		
7.1	9.75	9.92	10.57	11.11	9.62	9.1	10.39	10.22	11.17		
6.67	14.52	14.01	13.47	12.87	15.68	15.46	14.83	15.26	13.91		
7.42	15.08	15.25	13.84	14.15	15.52	14.87	15.34	13.8	16.3		
9.05	15.88	16.08	16.37	16.41	16.38	14.49	15.85	13.1	16.73		
10.25	14.97	17.99	15.72	18.77	15.15	15.4	15.42	15.73	15.91		
13.19	16.93	15.84	21.62	20.27	20.5	21.57	20.83	20.73	21.21		
18.79	19.16	19.25	23.7	23.61	26.16	25.9	23.65	24.72	24.8		
20.05	23.75	23.02	24.33	23.64	30.45	30.53	30.51	29.91	23.22		
24.98	26.06	26.4	29.14	27.48	31.57	31.84	33.32	34.4	30.14		
26.16	29.16	30.8	28.74	28.81	32.93	31.61	28.26	26.75	32.12		
27.39	25.99	29.29	30.33	32.14	31.24	30.72	27.7	28.77	29.64		
29.91	34.81	34.85	36.83	34.74	35.54	35.73	37.13	35.37	35.36		
35.78	38.46	39.69	38.82	41.66	32.31	32.57	40.15	38.93	37.19		
19.29	33.45	33.45	35.05	38.06	29.09	32.49	38.66	31.47	34.52		
20.77	31.39	32.92	28.37	32.76	26.63	29.95	28.53	28.92	32.92		
22.58	23.38	30.62	18.34	26.07	23.94	28.75	19.35	24.31	21.35		
6.18	7.89	17.9	13.47	9.65	13.96	15.48	11.26	13.59	4.49		
9.62	14.06	16.21	9.37	13.79	14.11	12.79	14.74	12	5.5		
24.51	7.55	6.31	10.9	10.31	13.6	9.62	10.29	9.97	10		
26.79	23.17	23.05	28.35	25.12	31.65	28.61	26.74	30.05	27		
24.27	27.71	28.96	34.34	32.57	31.48	25.89	26.64	28.2	34.74		
35.48	29.49	25.97	30.42	27.42	30.63	25.94	23.91	29.46	30.53		
47.44	36.42	37.61	35.99	30.25	39.67	33.73	35.77	32.56	35.58		
49.5	40.7	42.14	41.02	36.12	39.12	40.84	39.88	39.29	41.43		
39.41	35.61	35.72	35.96	36.23	35.59	35.42	37.77	30.5	36.26		

150	150	150	150	150	150	150	150	150	150	150	150
R	L	R	L	R	L	R	L	R	L	R	L
10	11	12	13	14	15	16	17	18	19		
-5.5	-2.09	-1.3	-4.59	-5.69	-0.74	1.47	-6.56	-6.09	-5.68		
-3.04	-1.42	-1.75	-1.72	-1.64	-0.32	0.49	-3.32	-2.92	-3.36		
0.32	1.7	0.96	0.87	0.81	1.66	1.28	0.05	0.34	-0.58		
2.15	2.19	1.97	1.57	1.57	2.66	2.56	1.05	1.26	1.36		
3.79	2.11	2.2	1.29	1.21	5.91	6.2	2.09	2.32	4.03		
5.56	6.18	6.14	4.53	5.02	4.53	4.82	4.77	5.07	5.69		
6.4	6.27	6.44	5.26	5.93	5.52	6.72	6.21	6.25	5.06		
6.64	5.69	5.4	5.91	6.33	6.33	6.51	4.52	5.76	5.66		
9.96	9.47	10.47	9.45	9.92	10.04	10.78	8.59	9.37	9.48		
10.69	10.62	10.22	9.95	10.18	10.45	10.35	9.2	10.27	10.31		
13.83	14.72	15.1	14.25	12.44	12.99	13.36	11.47	12.21	11.78		
15.39	16.45	14.89	15.09	14.5	15.59	14.55	13.2	15.21	15.46		
15.8	16.9	14.55	16.57	14.02	15.29	13.96	13.09	15.9	15.85		
17.64	16.76	16.08	16.11	16.17	14.09	14.75	15.4	17.32	16.57		
20.89	21.46	19.23	20.51	22.06	22.48	21.08	18.91	19.88	21.33		
24.75	19.81	19.34	25.47	24.82	21.06	21.43	19.77	21.1	26.36		
23.04	23.99	23.05	25.04	25.24	28.78	28.98	24.45	27.05	25.02		
28.99	29.98	31.08	23.3	22.97	30.36	28.23	29.04	29.02	25.31		
32.47	30.72	29.84	28	25.15	29.33	29.32	28.53	30.15	26.8		
29.86	26.89	28.3	26.58	27.04	27.95	29.62	29.63	29.13	28.23		
33.46	35.09	33.53	35.08	34.49	33.58	34.08	34.5	34.91	35.17		
38.77	40.58	38.69	42.12	37.38	35.46	37.83	40.29	41.12	40.99		
34.55	32.17	29.11	35.31	32.55	31.75	29.1	33.26	34.75	35.14		
33.55	28.13	29.7	27.98	30.96	29.97	30.07	30.64	32.85	32		
29.41	23.29	24.07	23.19	21.54	17.91	22.65	18.67	23.77	23.26		
11.2	7.48	9.66	12.46	9.37	10.74	12.04	9.97	11.32	7.01		
9.43	7.25	15.11	11.15	8.45	11.17	13.39	11.84	11.64	11.04		
7.92	9.89	9.84	10.09	12.14	4.26	11.75	9.93	9.87	11.3		
28.65	24.77	27.93	21.94	24.74	24.64	27.52	28.17	30.19	25.56		
30.1	34.3	32.58	33.27	25.45	27.64	26.16	35.2	34.37	32.02		
27.46	30.93	28.53	26.92	29.85	27.34	18.4	30.48	29.93	27.01		
31.79	37.12	34.78	32.73	31.44	34.87	31.44	39.12	38.17	32.85		
39.93	39.35	35.91	40.68	37.34	41.8	39.1	43.28	42.57	41.35		
29.08	33.29	31.63	37.33	32.09	36.57	32.94	35.86	35.46	36.08		

150	168	168	168	168	168	168	168	168	168	168	168
R	L	R	L	R	L	R	L	R	R	L	L
20	1	2	3	4	5	6	7	8	9		
-5.7	-11.86	-10.4	-10.46	-9.91	-7.39	-6.96	-8.75	-8.52	-10.71		
-3.83	-7.98	-6.81	-6.82	-6.2	-7.09	-7.19	-8.4	-8.47	-7.15		
-0.83	-1.74	-1.13	-1.98	-1.91	-0.11	-2.25	-0.28	-2.09	-1.61		
1.29	3.55	4.02	3.64	3.66	4.25	3.09	4.57	3.25	3.42		
4.17	6.7	7.88	6.66	7.05	8.35	6.66	7.42	6.06	7.22		
6.14	8.14	9.11	7.23	8.13	8.02	8.23	8.19	8.82	8.77		
6.18	10.17	11.16	9.68	10.23	10.77	10.11	10.38	10.21	10.77		
5.95	13.47	13.18	11.59	12.17	10.31	10.18	13.54	12.65	13.63		
10.07	14.18	17.08	14.07	16.45	15.37	16.27	15.17	16.76	16.01		
9.5	19.41	20.29	20.19	19.98	21.76	20.59	21.6	19.95	21.77		
11.89	23.05	20.53	24.42	23.37	23.62	20.6	23.58	20.76	23.09		
14.27	21.85	19.08	24.02	21.41	24.85	20.55	22.38	19.43	24.15		
13.91	20.51	16.91	22.66	19.19	24.5	19.99	20.91	17.04	21.48		
15.4	23.3	21.4	21.18	20.36	24.77	19.8	19.29	19.86	21.74		
17.78	29.83	28.71	28.6	29.97	27.29	27.27	27.37	28.97	30.45		
26.04	32.48	31.08	34.21	33.5	33.61	33.69	33.83	32.8	34.3		
26.21	38.13	36.22	38.03	37.01	38.28	37.63	38.38	36.95	38.39		
26.11	39.25	38.26	41.16	40.51	39.41	40.27	40.58	39.18	39.27		
27.45	35.95	35.37	38.14	37.04	41.4	39.44	36.58	37.08	37.89		
30.15	34.34	35.28	35.02	35.73	36.25	37.28	32.1	33.71	34.88		
34.56	37.25	37.11	38.34	38.63	37.24	37.62	38.94	38.13	36.75		
37.74	45.91	44.47	45.72	47.63	46.27	44.32	43.67	43.79	43.89		
32.05	41.22	36	41.95	39.64	43.06	37.97	36.27	34.56	41.12		
31.55	41.11	33.29	43.89	40.95	47.57	33.3	33.04	29.9	43.26		
26.06	41.6	40.53	37.08	38	42.22	40.97	35.25	34.99	39.48		
12.83	29.82	30.27	31.57	29.02	30.9	37.57	33.05	35.74	29.65		
12.19	34.95	32.98	33.55	32.33	37.68	35.92	35.24	35.7	35.19		
9.5	32.05	31.75	31.68	36.4	31.72	28	28.07	28.84	36.53		
28.95	49.82	51.02	46.79	50.14	45.91	45.15	44.48	46.65	51.37		
32.01	47.35	45.78	49.35	43.59	51.15	46.45	48.89	45.95	47.39		
28.01	42.45	42.06	45.31	40.45	43.5	43.6	43.13	41.44	43.14		
41.3	45.39	38.95	45.91	45.53	42.87	41.72	42.23	42.62	43.53		
39.39	45.42	39.65	45.4	44.4	44.68	40.99	42.38	40.04	46.82		
31.74	47.74	45.34	40.49	41.54	50.86	45.92	41.47	40.35	46.73		

168	168	168	168	168	168	168	168	168	168	168	168
R	L	R	L	R	L	R	L	R	R	L	L
10	11	12	13	14	15	16	17	18	19		
-9.76	-8.82	-8.36	-10.1	-9.16	-7.52	-6.26	-8.13	-7.06	-10.84		
-6.45	-5.09	-3.89	-6.36	-5.54	-7.74	-6.85	-8.65	-8.27	-9.98		
-1.75	-0.47	-0.37	-2.77	-2.43	-0.46	-1.15	-2.85	-2.25	-2.03		
3.64	3.74	3.85	1.92	2.24	3.46	2.77	2.37	3.17	2.28		
7.89	7.16	7.56	5.05	6	6.83	6.66	6.64	7.68	6.03		
9.53	8.83	9.42	5.75	8.35	7.5	7.93	7.77	9.39	7.86		
10.76	11.16	10.83	7.58	9.64	10.09	9.61	9.45	10.09	9.99		
13.21	12.23	11.55	8.52	9.6	9.92	9.64	11.07	11.23	10.15		
17.41	15.7	16.77	11.73	16.29	14.61	15.1	14.01	15.98	14.16		
20.82	19.91	20.99	17.46	20.21	20.21	17.74	20.4	20.45	21.28		
19.74	23.75	22.99	21.5	23.34	26.02	20.61	23.73	23.26	25.99		
19.62	25.02	23.24	21.12	22.73	25.49	18.91	25.56	22.68	25.53		
20.8	24.21	22.06	21.16	22.23	24.93	17.48	25.82	22.08	25.74		
25.85	22.7	24.76	21.5	23.77	25.85	20.1	26.37	24.37	25.78		
31.94	28.93	30.16	22.14	27.91	25.89	22.74	25.35	29.28	27		
34.14	35.4	33.79	27.57	32.81	32.39	29.8	32.21	33.85	30.31		
36.93	38.39	35.88	33.3	35.85	38.85	37.24	40.07	37.46	37.11		
34.34	42.44	40.21	37.51	41.3	39.98	38.59	42.24	41.92	41.74		
32.29	40.37	37.16	38.68	41.3	41.95	38.31	41.36	41.47	42.91		
29.62	34.6	32.22	33.65	35.34	32.69	35.33	33.77	33.67	36.72		
39.2	38.18	37.84	35.97	36.76	36.5	36.04	37.58	37.7	36.77		
49.64	47.15	49.69	44.94	47.23	47.71	43.72	49.56	47.46	49.4		
42	45.2	43.77	40.71	41.98	45.38	40.86	44.81	39.79	48.17		
35.07	50.41	45.9	36.01	47.96	48.59	38.52	47.96	44.95	48.27		
29.01	40.39	40.91	35.67	44.6	40.16	47.26	38	41.64	36.71		
25.76	31.52	31.37	31.62	34.01	29.95	34.8	30.13	39.03	28.95		
27.64	29.91	34.91	39.75	34.28	31.64	31.82	37.21	36.71	39.58		
28.7	36.39	36.71	27.42	30.04	26.27	30.92	30.73	29.89	28.38		
44.84	50.06	52.64	39.81	46.81	43.42	45.17	42.8	49.33	42.07		
44.99	49.33	48.96	48.39	49.69	48.01	45.53	50.26	51.52	51.99		
40.14	45.75	42.2	39.01	41.01	41.61	42.38	41.18	42.43	40.99		
45.28	44.61	43.14	42.07	43.19	44.06	40.87	44.76	46.38	43.27		
41.64	43.35	47.09	40.7	38.93	49.64	39.31	45.77	46.04	47.36		
35.9	48.1	46.04	38.19	45.28	40.67	42.93	38.24	49.89	40.75		

<b>168</b>									
<b>R</b>									
<b>20</b>									
<b>-8.76</b>	<b>20</b>	<b>20</b>	<b>1.715</b>	<b>1.953999</b>	<b>-4.116</b>	<b>2.410565</b>	<b>-8.9865</b>	<b>1.504087</b>	
<b>-8.73</b>	<b>25</b>	<b>25</b>	<b>4.11</b>	<b>3.830175</b>	<b>-2.357</b>	<b>1.369011</b>	<b>-7.183</b>	<b>1.41662</b>	
<b>-1.5</b>	<b>31.5</b>	<b>31.5</b>	<b>2.148</b>	<b>1.591499</b>	<b>0.552</b>	<b>0.805021</b>	<b>-1.5565</b>	<b>0.846679</b>	
<b>2.92</b>	<b>40</b>	<b>40</b>	<b>0.9915</b>	<b>0.433046</b>	<b>1.814</b>	<b>0.515092</b>	<b>3.2905</b>	<b>0.70388</b>	
<b>6.79</b>	<b>50</b>	<b>50</b>	<b>0.5265</b>	<b>1.079304</b>	<b>2.8115</b>	<b>1.503926</b>	<b>6.9145</b>	<b>0.779274</b>	
<b>9.21</b>	<b>63</b>	<b>63</b>	<b>1.267</b>	<b>0.586013</b>	<b>5.2035</b>	<b>0.514478</b>	<b>8.309</b>	<b>0.896231</b>	
<b>10.47</b>	<b>80</b>		<b>2.1905</b>	<b>0.417832</b>	<b>5.8955</b>	<b>0.523183</b>	<b>10.1575</b>	<b>0.785057</b>	
<b>10.64</b>	<b>100</b>		<b>1.7835</b>	<b>0.916919</b>	<b>5.8875</b>	<b>0.757314</b>	<b>11.424</b>	<b>1.538114</b>	
<b>17.04</b>	<b>125</b>	<b>125</b>	<b>4.1925</b>	<b>1.088925</b>	<b>9.5575</b>	<b>0.626274</b>	<b>15.508</b>	<b>1.404113</b>	
<b>21.11</b>	<b>160</b>		<b>4.349</b>	<b>1.50175</b>	<b>10.1795</b>	<b>0.55408</b>	<b>20.306</b>	<b>1.130395</b>	
<b>26.03</b>	<b>200</b>		<b>5.9495</b>	<b>1.355796</b>	<b>13.7025</b>	<b>1.297069</b>	<b>22.999</b>	<b>1.876068</b>	
<b>22.34</b>	<b>250</b>	<b>250</b>	<b>8.0135</b>	<b>1.408442</b>	<b>14.9375</b>	<b>0.817434</b>	<b>22.498</b>	<b>2.232352</b>	
<b>22.15</b>	<b>315</b>		<b>9.4075</b>	<b>0.987255</b>	<b>15.3565</b>	<b>1.217548</b>	<b>21.5925</b>	<b>2.657654</b>	
<b>22.94</b>	<b>400</b>		<b>10.605</b>	<b>1.078705</b>	<b>16.0675</b>	<b>1.158347</b>	<b>22.7845</b>	<b>2.319695</b>	
<b>28.31</b>	<b>500</b>	<b>500</b>	<b>13.3215</b>	<b>1.710587</b>	<b>20.2555</b>	<b>1.728399</b>	<b>27.9055</b>	<b>2.444878</b>	
<b>33.83</b>	<b>630</b>		<b>17.386</b>	<b>1.193894</b>	<b>23.045</b>	<b>2.630752</b>	<b>32.78</b>	<b>1.850439</b>	
<b>37.28</b>	<b>800</b>		<b>20.566</b>	<b>0.854261</b>	<b>26.0105</b>	<b>2.810702</b>	<b>37.369</b>	<b>1.405036</b>	
<b>40.33</b>	<b>1000</b>	<b>1k</b>	<b>23.5465</b>	<b>1.193223</b>	<b>28.737</b>	<b>3.066742</b>	<b>39.9245</b>	<b>1.875</b>	
<b>41.56</b>	<b>1250</b>		<b>25.199</b>	<b>0.834467</b>	<b>29.347</b>	<b>2.040217</b>	<b>38.8125</b>	<b>2.72856</b>	
<b>35.39</b>	<b>1600</b>		<b>27.995</b>	<b>1.374074</b>	<b>28.96</b>	<b>1.623268</b>	<b>34.3795</b>	<b>1.788921</b>	
<b>36.76</b>	<b>2000</b>	<b>2k</b>	<b>29.547</b>	<b>1.229074</b>	<b>34.9405</b>	<b>0.950974</b>	<b>37.4655</b>	<b>0.914886</b>	
<b>47.49</b>	<b>2500</b>		<b>33.792</b>	<b>3.111009</b>	<b>38.5375</b>	<b>2.664711</b>	<b>46.483</b>	<b>2.122702</b>	
<b>41.55</b>	<b>3150</b>		<b>27.075</b>	<b>3.477279</b>	<b>33.299</b>	<b>2.613779</b>	<b>41.3005</b>	<b>3.383652</b>	
<b>43.71</b>	<b>4000</b>	<b>4k</b>	<b>24.2715</b>	<b>1.926517</b>	<b>30.4895</b>	<b>1.990579</b>	<b>41.683</b>	<b>6.331539</b>	
<b>44.42</b>	<b>5000</b>		<b>24.4385</b>	<b>1.975778</b>	<b>23.4965</b>	<b>3.519978</b>	<b>39.4445</b>	<b>4.068172</b>	
<b>37.98</b>	<b>6300</b>		<b>14.288</b>	<b>3.640054</b>	<b>11.0885</b>	<b>3.108838</b>	<b>32.1355</b>	<b>3.426395</b>	
<b>33.9</b>	<b>8000</b>	<b>8k</b>	<b>9.9085</b>	<b>2.839126</b>	<b>11.7615</b>	<b>2.730753</b>	<b>34.5445</b>	<b>3.011736</b>	
<b>32.99</b>	<b>10000</b>		<b>17.557</b>	<b>3.168631</b>	<b>9.752</b>	<b>2.044347</b>	<b>31.174</b>	<b>3.238134</b>	
<b>48.96</b>	<b>12500</b>		<b>28.5525</b>	<b>2.573758</b>	<b>26.84</b>	<b>2.628123</b>	<b>46.862</b>	<b>3.469929</b>	
<b>50.28</b>	<b>16000</b>	<b>16000</b>	<b>33.5135</b>	<b>4.531923</b>	<b>30.6815</b>	<b>3.322027</b>	<b>48.2425</b>	<b>2.323941</b>	
<b>43.91</b>	<b>20000</b>	<b>20000</b>	<b>35.8595</b>	<b>2.416114</b>	<b>27.9315</b>	<b>2.956335</b>	<b>42.2845</b>	<b>1.669388</b>	
<b>45.83</b>	<b>25000</b>	<b>25000</b>	<b>43.2265</b>	<b>3.267681</b>	<b>35.1595</b>	<b>3.06823</b>	<b>43.6105</b>	<b>1.908131</b>	
<b>45.33</b>	<b>31500</b>	<b>31500</b>	<b>42.053</b>	<b>3.118313</b>	<b>40.062</b>	<b>1.965924</b>	<b>43.747</b>	<b>3.110707</b>	
<b>50.48</b>	<b>40000</b>	<b>40000</b>	<b>36.4455</b>	<b>3.281465</b>	<b>34.5565</b>	<b>2.429038</b>	<b>43.8455</b>	<b>4.390374</b>	

**Table III – Coding for assignment of test identification numbers**

<input type="text"/>	<input type="text"/>	<input type="text"/> / <input type="text"/>	<input type="text"/>	<input type="text"/> / <input type="text"/>
Experimenter	Device Type	EAR product or	Manuf. Code	Sequential Test Code
<b>Experimenter</b>				
0 – Outside test lab				60 Adco Hearing Conservation
1 – EHB				61 Howard Leight
2 – RWK				62 American Optical
3 – DLP / KLD / MES / CAM				63 Aural Technology
4 – RG, Jr. / IM / FL				64 Bilsom
5 – Renumbered average reports				65 Coe Labs
A – Average report				66 David Clark
B – ANSI ATF (Blockhead)				67 Douglass
C – Contract test				68 ERB
G – GRAS 45CB ATF				69 Excel-oy
I – ISL-B ATF				70 Flents
K – KEMAR ATF				71 Glendale
L – Manufacturer's Label Values				72 Hearing Control Inc.
				73 Hellberg
<b>Device Type</b>				74 Insta-Mold
1 – Premolded				75 Jackson
2 – Formable				76 Marion
3 – Custom Earmold				77 Mediprint, Inc.
4 – Semi-Insert				78 MSA
5 – Muff (59 – Ultra 9000)				79 Norton (North)
6 – Plug + Muff				80 OPTAC
7 – Cap-attached muffs (Helmets, Hard Hats)				81, 8A, 8B, 8C Peltor
8 – Supra-Aural				82 Racial
9 – Miscellaneous				83 Safety Supply (Safeco)
C – Communication				84 Sellstrom
				85 SMR
<b>E-A-R Products</b>				86 Tasco
0 – Prototype				87 3M Corp.
1 – E-A-R Plug (Vinyl foam)				88 Techmed
2 – Model 1k, 2k, 3k, 4k; Premolded (not UltraFit)				89 Wilson
3 – UltraFit Plug				90 Safety Direct
4 – Urethane Plug or Pod				91 Specialty Composites
5 – Filtered Plug (Hi-Fi Plug or Combat Arms)				92 Emtech
				93 Moldex-Metric
<b>Sample Lab ID Numbers (HPDA)</b>				
100 – EARCAL, 10 subj., S3.19				
101 – EARCAL, 5 subj., S3.19 w/ exception				
110 – EARCAL, 10 subj., S12 6-1984				
144 – EARCAL, 20 subj., S12 6-2008 (A) (insert)				
145 – EARCAL, 10 subj., S12 6-2008 (B) (muff)				
146 – EARCAL, 20 subj., S12 6-2008 (A) (insert)				
147 – EARCAL, 10 subj., S12 6-2008 (B) (muff)				
<b>Sample Test IDs</b>				
013030 – <b>(b) (6)</b>	121625 – Classic Plus			
415001 – Hi-Fi Plug	258149 – Peltor H10A			

**Test ID**    **Device**

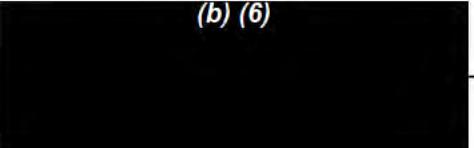
IC8100	MT17H682 BTH , ComTac ACH, ComTac III, and ComTac XP w/gel cushions
IC8101	TEP-100 PrePro w/UltraFit tip 78-8150-1320-2 Max Volume
I15100	Combat Arms 4.0 P/N 370-1031 AR-15 Pulse
I15101	Combat Arms 4.0 P/N 370-1031 Shock Tube Pulse

**E•A•RCAL IMPULSE PEAK ATTENUATION TEST REPORT**  
**PER ANSI S12.42-2010**

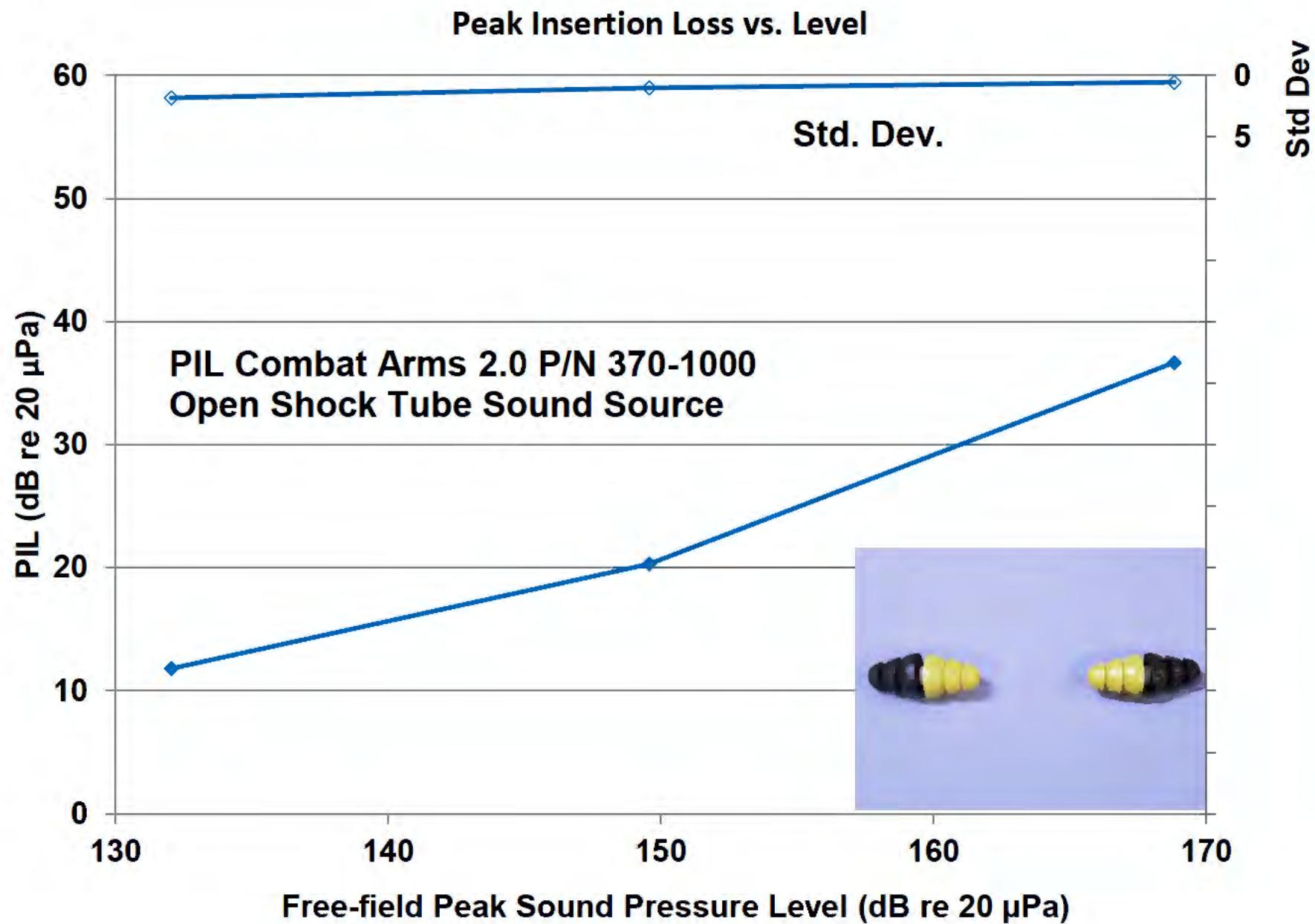
**DEVICE:** Combat Arms 2.0 P/N 370-1000  
**DEVICE TYPE:** Passive Level Dependent (Open)  
**MANUFACTURER:** 3M / Peltor  
**TEST DATE:** July 22, 2015                   **TEST ID:** I15103  
**SAMPLES** 5  
**BAND FORCE (N):** N/A  
**SOUND SOURCE** Shock tube w/2.15 m horn      **POSITION:** N/A  
**TEST FIXTURE:** ISL-B 3M

Test Level Peak level dB SPL	Peak Insertion Loss (PIL) (dB)	Standard Deviation (dB)
132	11.8	1.8
150	20.3	1.0
168	36.7	0.6

Performed by: 

Reviewed by:  —

The user is solely responsible for utilizing these data and evaluating the 3M product to determine whether it is suitable for user's method of application. 3M makes no express or implied warranties of merchantability or fitness for a particular purpose. Data in this report may be cited and/or utilized by the customer as desired, including photocopying the entire report for distribution or incorporation into other reports. However, excerpts may not be distributed without the prior written permission of the 3M Personal Safety Division.



## Individual Protector Data

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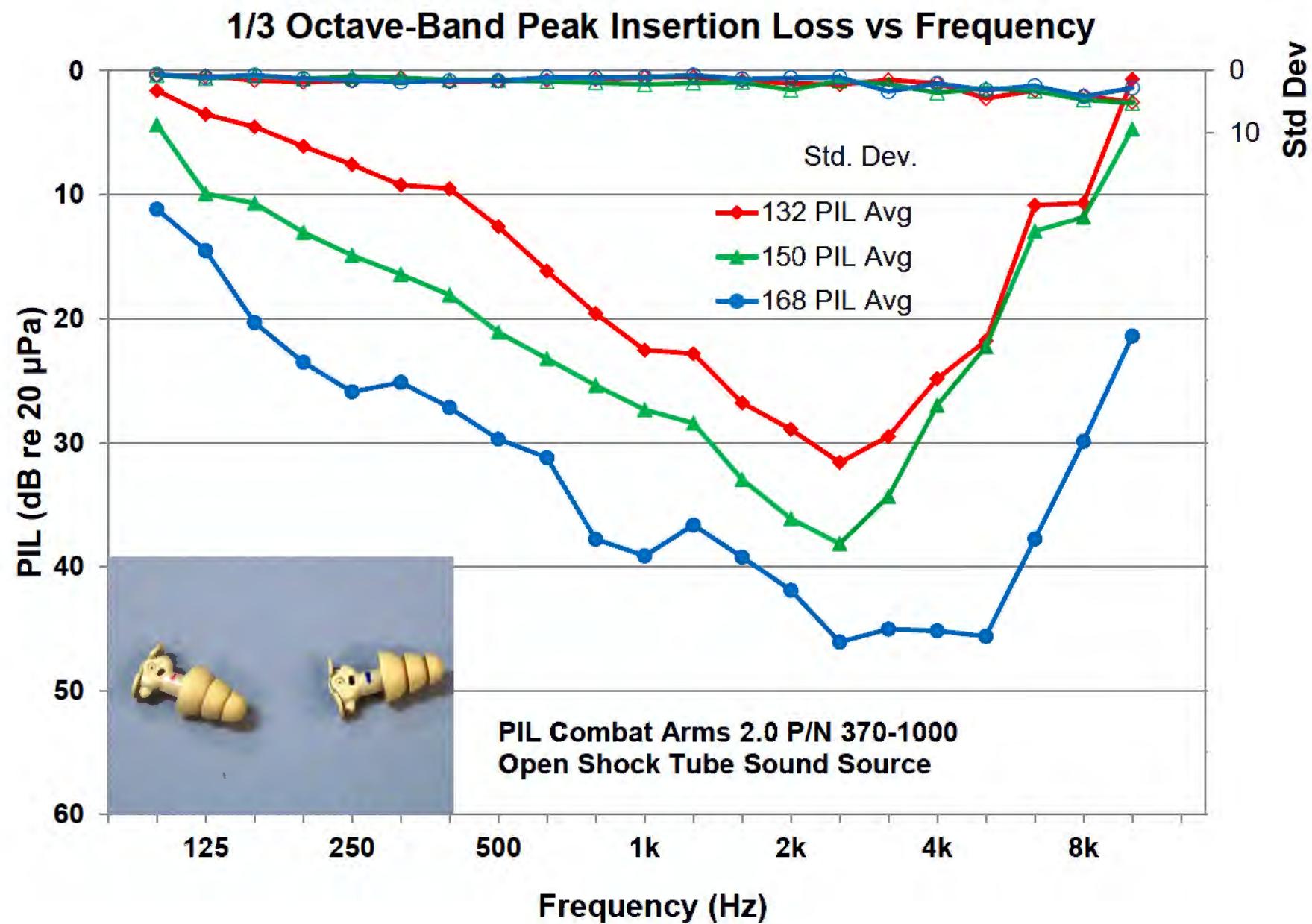
TEST ID: I15103      Device: Combat Arms 2.0 P/N 370-1000

Date: 7/22/15      Samples: 5

Comments:

	132 dB Left PIL	132 dB Right PIL	150 dB Left PIL	150 dB Right PIL	168 dB Left PIL	168 dB Right PIL
Protector 1, Trial 1	9.9	12.3	20.8	21.7	36.5	36.8
Protector 1, Trial 2	10.3	13.4	19.5	20.4	36.3	37.0
Protector 2, Trial 1	13.7	15.5	20.3	21.5	36.3	36.9
Protector 2, Trial 2	11.2	12.8	19.0	20.4	36.4	36.9
Protector 3, Trial 1	10.5	10.0	20.3	19.6	36.6	35.7
Protector 3, Trial 2	9.3	9.5	18.9	18.2	36.6	35.6
Protector 4, Trial 1	10.5	11.7	20.9	20.9	37.4	36.6
Protector 4, Trial 2	10.1	11.3	20.9	21.7	37.5	36.6
Protector 5, Trial 1	12.8	12.5	21.5	20.9	37.6	36.7
Protector 5, Trial 2	14.5	14.3	19.6	19.0	37.4	36.0

PIL Combat Arms 2.0 P/N 370-1000 Open			
Test Level	132 dB	150 dB	168 dB
Overall Average Peak Insertion Loss (dB)	12	20	37
PIL Std. Dev.	1.8	1.0	0.6
Overall Average A-Duration (ms)	0.5	1.2	0.9
A-Duration Std. Dev.	0.26	0.09	0.03

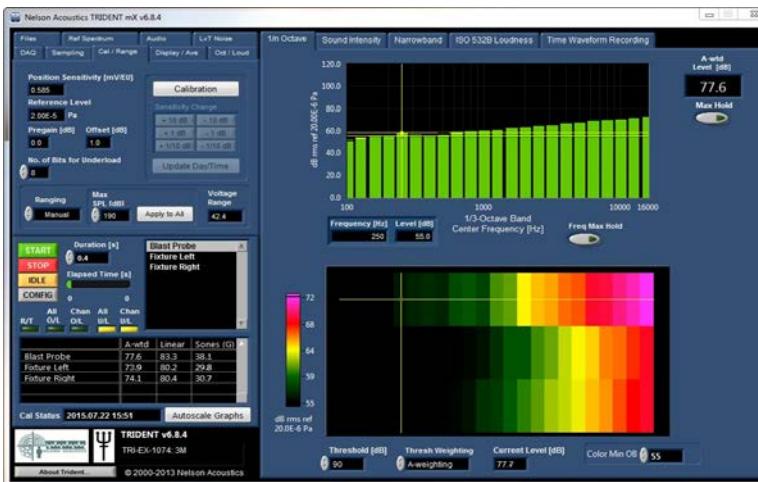
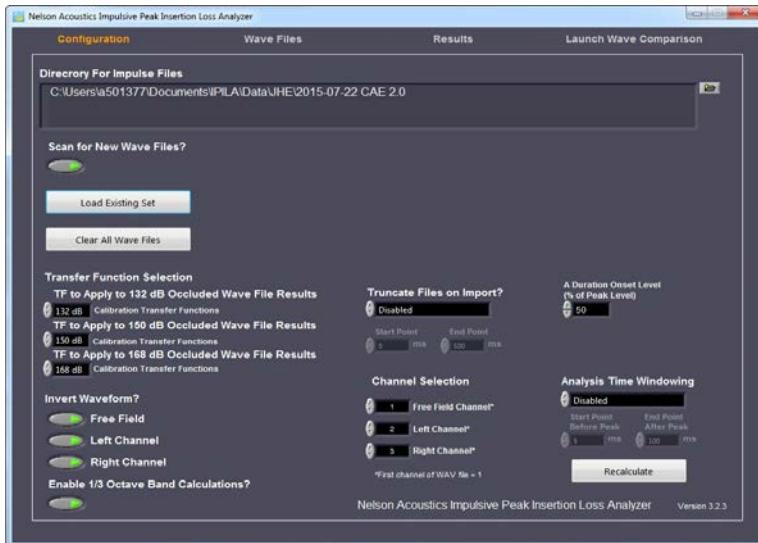


Combat Arms 2.0 P/N 370-1000  
 Ptest,1 = Sample Pair 1  
 Ptest,2 = Sample Pair 2  
 Ptest,3 = Sample Pair 3  
 Ptest,4 = Sample Pair 4  
 Ptest,5 = Sample Pair 5

Testing using Shock tube w/2.15 m horn in the original 3M Impulse Lab

Testing at Open Position

Testing for Elliott Berger and Eric Fallon



Organize ▾ New folder					
	Name	Date modified	Type	Size	
Favorites	Cameron EFS speaker testing	12/11/2014 2:38 PM	Microsoft Office E...	231 KB	
Desktop	EAR Default Configuration File for IPILA16kHzJLHamer	7/10/2014 8:56 AM	Microsoft Office E...	233 KB	
Downloads	EAR Default Configuration File for IPILA16kHz	1/25/2014 12:40 PM	Microsoft Office E...	233 KB	
Recent Places	EAR Default Configuration File for CA4_1Peak	2/18/2013 3:27 PM	Microsoft Office E...	232 KB	
Libraries	EAR Configuration File for REATMaster	1/7/2013 2:42 PM	Microsoft Office E...	232 KB	
Documents	Trident V6_8 Default Config_Files_JEPE Off	12/18/2012 5:38 PM	Microsoft Office E...	232 KB	
Music	Trident V6_8 Default Config_Files_JEPE On	12/18/2012 5:38 PM	Microsoft Office E...	240 KB	
Pictures	EAR Default Configuration File for IPILA16kHz SIN	11/7/2012 11:53 AM	Microsoft Office E...	233 KB	
Videos	EAR Default Configuration File for IPILA16kHz - Copy	8/1/2012 9:15 AM	Microsoft Office E...	232 KB	
Computer	EAR Default Configuration File for IPILA	7/22/2012 4:33 PM	Microsoft Office E...	232 KB	
Local Disk (C:)	Trident V6_5 Default Config_Files_JEPE Off	4/6/2012 4:53 PM	Microsoft Office E...	237 KB	
Network	Trident V6_5 Default Config_Files_JEPE On	4/6/2012 4:52 PM	Microsoft Office E...	237 KB	
	EAR Default Configuration File for IPILA Mylar Testing	8/16/2011 10:08 AM	Microsoft Office E...	232 KB	
	EAR Configuration File for Sound Level Monitoring	8/10/2011 8:39 AM	Microsoft Office E...	233 KB	

	132 dB Left PIL	132 dB Right PIL	150 dB Left PIL	150 dB Right PIL	168 dB Left PIL	168 dB Right PIL
Protector 1, Trial 1	9.9	12.3	20.8	21.7	36.5	36.8
Protector 1, Trial 2	10.3	13.4	19.5	20.4	36.3	37
Protector 2, Trial 1	13.7	15.5	20.3	21.5	36.3	36.9
Protector 2, Trial 2	11.2	12.8	19	20.4	36.4	36.9
Protector 3, Trial 1	10.5	10	20.3	19.6	36.6	35.7
Protector 3, Trial 2	9.3	9.5	18.9	18.2	36.6	35.6
Protector 4, Trial 1	10.5	11.7	20.9	20.9	37.4	36.6
Protector 4, Trial 2	10.1	11.3	20.9	21.7	37.5	36.6
Protector 5, Trial 1	12.8	12.5	21.5	20.9	37.6	36.7
Protector 5, Trial 2	14.5	14.3	19.6	19	37.4	36

PIL Combat Arms 2.0 P/N 370-1000 Open			
Test Level	132 dB	150 dB	168 dB
Overall Average Peak Insertion Loss (dB)	12	20	37
PIL Std. Dev.	1.8	1.0	0.6
Overall Average A-Duration (ms)	0.5	1.2	0.9
A-Duration Std. Dev.	0.26	0.09	0.03

	Left Estimated Unoccluded Peak Level [dB]	Left Measured Occluded Peak Level [dB]
Ptest,1,1,132	135.2	125.4
Ptest,1,2,132	137.2	126.9
Ptest,2,1,132	136.2	122.5
Ptest,2,2,132	134.4	123.2
Ptest,3,1,132	134.4	123.9
Ptest,3,2,132	134.2	124.9
Ptest,4,1,132	135.4	124.9
Ptest,4,2,132	135.2	125.1
Ptest,5,1,132	135.6	122.9
Ptest,5,2,132	136.9	122.4
Ptest,1,1,150	154.4	133.6
Ptest,1,2,150	152.8	133.3
Ptest,2,1,150	154.7	134.4
Ptest,2,2,150	154	135
Ptest,3,1,150	152.4	132.1
Ptest,3,2,150	152.8	133.9
Ptest,4,1,150	153.8	132.9
Ptest,4,2,150	155	134
Ptest,5,1,150	154.3	132.8
Ptest,5,2,150	153.3	133.7
Ptest,1,1,168	179.1	142.6
Ptest,1,2,168	178.9	142.6
Ptest,2,1,168	178.8	142.4
Ptest,2,2,168	179.4	143
Ptest,3,1,168	179.2	142.6
Ptest,3,2,168	179	142.4
Ptest,4,1,168	179.3	141.9
Ptest,4,2,168	178.9	141.3
Ptest,5,1,168	178.7	141.1
Ptest,5,2,168	179.2	141.8

Right Estimated Unoccluded Peak Level [dB]	Right Measured Occluded Peak Level [dB]	Free Field Level [dB]
136.9	124.6	130.9
139.4	125.9	132.9
137.4	121.9	132.6
135.4	122.6	131.4
134.6	124.6	131.6
134.7	125.2	131.8
136.8	125.1	131.5
135.8	124.5	131.8
136.2	123.7	132.6
138.1	123.8	133.5
155.5	133.7	150.6
154	133.5	148.8
155.8	134.3	149.9
154.7	134.3	149.5
153.6	134	148.5
153.7	135.4	148.6
154.8	133.9	149.9
156.2	134.4	150.5
155.2	134.2	149.8
154.1	135.1	149.7
179.2	142.3	169
179	141.9	169.1
178.9	142	168.6
179.5	142.5	168.8
179.3	143.6	168.5
179.1	143.5	168.7
179.4	142.8	168.8
178.9	142.4	168.9
178.8	142.1	168.8
179.2	143.2	169.1

Free Field A-Duration [ms]	Free Field B-Duration [ms]	Free Field C-Duration [ms]	Free Field D-Duration [ms]
0.28	53.09	3.65	12.77
0.52	36.45	1.46	7.83
0.72	43.46	2.97	11.58
0.09	47.78	5.86	7.87
0.61	29.98	1.75	5.84
0.57	51.46	4.19	11.26
0.62	33.12	3.74	4.83
0.41	46.91	2.77	10.33
1.06	43.79	2.52	10.12
0.56	31.04	1.35	6.91
1.084	20.86	0.91	3.87
1.279	20.07	1.13	3.83
1.162	17.5	1.02	3.62
1.25	19.46	1.16	3.73
1.064	18.59	0.88	3.02
1.123	20.07	1.04	2.78
1.06	21.19	0.95	3.39
1.29	20.98	1.1	3.53
1.11	22.08	0.93	2.97
1.14	22.02	1.03	3.89
0.99	5.89	0.8	1.11
0.98	5.33	0.7	1.13
0.93	5.52	0.76	1
0.96	5.7	0.8	1.21
0.92	5.59	0.71	1.05
0.91	5.43	0.8	1.03
0.95	6.01	0.66	1.12
0.96	5.12	0.67	0.91
0.98	5.08	0.76	1.03
0.9	5.45	0.69	0.98



	132	132	132	132	132
	Cal	Cal	Cal	Cal	Cal
	1, FF	1, L	1, R	2, FF	2, L
20	78.47	79.06	79.46	79.04	79.4
25	85.31	85.88	85.96	87.59	87.71
31.5	97.45	97.3	97.75	97.65	97.4
40	110.07	110.19	110.55	109.58	109.78
50	109.8	110.35	110.52	110.75	110.14
63	109.91	109.87	110.32	109.85	109.79
80	113.31	113.49	113.78	112.35	112.89
100	114.96	114.03	115.11	113.12	112.55
125	112.6	112.05	112.83	112.05	111.87
160	111.16	109.79	111.14	108.74	107.76
200	106.96	106.42	107.43	105.74	104.33
250	104.6	102.91	104.55	104.77	102.9
315	101	98.08	100.65	105.28	102.08
400	101.8	98.63	101.4	105.93	102.36
500	104.78	102.92	104.97	103.26	101.54
630	105.57	108	107.85	103.34	103.71
800	110.83	117.48	116.9	104.83	110.09
1000	114.95	120.5	121.54	116.53	121.34
1250	117.97	121.42	122.43	118.81	122.48
1600	113.09	118.82	119.11	109.31	114.98
2000	112.23	123.69	123.67	111.21	120.01
2500	108.4	125.33	124.17	107.21	120.7
3150	109.27	121.91	122.63	109.28	123.09
4000	109.02	122.26	121.8	108.94	121.04
5000	110.87	119.34	121.97	115.32	119.19
6300	106.54	112.82	111	110.97	116.33
8000	108.71	111.26	113.11	113.02	117.05
10000	113.07	112.39	109.94	112.24	109.5
12500	110.62	115.41	114.75	110.82	112.86
16000	107.64	110.87	108.46	107.92	112.94
20000	107.27	110.94	108.66	108.97	111.34
25000	105.51	108.22	104.31	107.69	106.28
31500	106.68	99.41	101.48	104.66	101.47
40000	102.2	97.21	96.67	106.41	96.21

132	132	132	132	132	132
Cal	Cal	Cal	Cal	Cal	Cal
2, R	3, FF	3, L	3, R	4, FF	4, L
79.58	78.46	78.76	79.1	73.09	75.12
88.07	87.95	87.91	88.32	86.24	86.55
97.91	97.79	97.67	98.14	97.59	97.76
110.1	108.85	108.8	109.28	109.21	109.05
110.93	110.29	109.87	110.58	111.54	111.57
110.26	106.86	106.54	107.21	108.8	108.6
112.99	106.14	106.61	106.58	110.97	111.3
113.55	103.09	102.09	103.23	111.29	110.57
112.45	102.48	103.07	103.24	108.98	108.7
108.86	109.55	108.06	109.47	107.25	106.05
105.79	106.29	105.27	106.51	105.1	103.84
104.56	108.79	107.03	108.79	109.23	107.35
104.88	105.79	102.81	105.45	114	111.13
105.76	109.5	105.51	109.17	113.21	109.73
102.97	116.57	116.21	116.93	118.3	116.87
104.82	119.17	120.76	120.69	114.92	116.52
110.63	115.5	120.26	118.87	113.01	117.57
122.28	114.77	120.88	120.42	114.98	119.59
123.76	114.79	118.11	119.63	118.73	122.45
115.97	104.15	110	111.47	109.21	115.72
120.07	107.72	119.36	119.37	108.1	118.96
120.75	105.9	122.82	122.13	114.35	124.13
125.15	107.93	121.01	121.77	111.43	124.01
122.08	109.6	122.97	123.56	109.84	123.99
120.84	115.68	118.66	120.25	114.91	120.24
113.52	116.72	119.12	117.62	109.02	112.26
113.38	114.26	115.4	114.03	114.64	116.08
106.8	111.6	110.78	108.33	113.19	112.9
110.68	108.76	111.49	113.63	110.68	112.76
107.19	107.42	109.36	110.5	107.18	109.68
106.33	108.22	109.09	107.24	110.52	107.75
101.56	107.69	108.91	106.73	105.41	106.52
99.3	106.64	98.74	101.89	109.09	101.02
97.7	104.47	100.19	96.22	107.99	98.57

132	132	132	132	132	132
Cal	Cal	Cal	Cal	Cal	Cal
4, R	5, FF	5, L	5, R	6, FF	6, L
74.88	77.58	78.01	78.29	79.53	79.9
86.78	87.3	87.17	87.72	85.52	85.1
98.14	97	97.32	97.57	97.5	97.35
109.59	110.25	110.32	110.72	109.31	109.34
112.04	110.85	111.23	111.5	110.45	109.91
109.13	109.15	109.02	109.49	108.73	108.64
111.38	112.1	112.55	112.71	110.1	110.71
111.55	113	111.78	113.04	110.32	109.59
109.22	106.57	106.69	107.1	104.23	103.94
107.3	105.81	104.49	105.82	109.04	107.57
105.24	104.07	102.6	104.09	105.84	104.45
109.12	110.09	108.11	109.87	115.61	113.89
113.68	110.53	108.02	110.28	114.69	112.25
112.94	108.57	106.32	108.49	109.07	105.45
118.1	115.88	114.03	115.67	116.87	115.9
117.05	111.4	112.36	112.61	110.31	111.27
117.57	107.52	113.96	113.88	112.5	118.03
120.59	110.54	115.95	117.17	118.71	124.17
123.36	109.09	112.72	113.64	114.65	118.45
117	112.22	118.58	118.75	112.44	118.87
119.36	114.31	126.41	125.48	110.53	120.77
125.9	116.04	128.44	128.8	111.56	124.09
124.49	110.78	125.56	126.64	106.8	121.9
124.59	114.78	126.68	128.02	109.02	122.85
123.57	116.17	121.43	124.94	115.55	119.52
111.09	111.46	117.9	113.01	116.99	116.07
113.24	112.87	114.52	113.63	116.42	118.35
111.39	117.52	115.17	111.48	112.02	111.23
112.17	111.64	115.74	111.84	111.41	113.41
107.34	109.6	112.81	110.15	109.6	110.48
105.63	109.79	108.13	107.27	107.91	109.01
105.16	107.64	107.23	106.8	106.08	108.98
101.77	108.35	102.19	101.95	104.74	99.83
96.26	109.36	99.34	98.18	104.93	98.39

132	150	150	150	150	150
Cal	Cal	Cal	Cal	Cal	Cal
6, R	1, FF	1, L	1, R	2, FF	2, L
80.12	86.2	86.55	86.75	87.36	87.02
85.56	96.12	95.68	96.23	97.11	96.87
97.82	108.22	108.21	108.61	107.5	107.65
109.67	120.29	120.33	120.74	120.29	120.17
110.66	120.77	120.58	121.16	120.61	120.78
109.13	118.25	118.15	118.66	118.23	118.19
110.76	124.06	124.6	124.72	124.95	125.4
110.63	125.66	124.93	125.97	127.62	126.25
104.55	124.19	124.31	124.39	125.82	126.09
108.97	128.96	127.65	128.98	129.16	127.74
105.88	125.5	124.66	125.8	127.28	126.31
115.55	129.64	127.67	129.46	126.49	124.59
114.46	133.82	131.09	133.52	132.72	129.9
108.7	133.13	129.15	132.82	132.96	128.02
117.27	128.77	127.18	129.16	130.2	128.88
111.91	133.67	134.68	134.94	129.42	130.12
118.11	124.09	128.85	129.04	122.22	127.67
125.24	126.75	132.2	133.3	126.38	132.49
119.67	129.04	132.77	134.48	126.4	130.5
118.54	122.54	129.24	130.01	129.55	135.62
121.03	123.25	134.53	134.35	125.73	136.85
124.59	123.56	137.04	137.14	121.95	135.65
122.09	124.65	138.11	137.14	121.72	137.67
124.39	125.11	137.71	139.22	117.95	134.47
120.56	124.7	130.42	134.24	120.21	130.81
114.95	122.21	132	127.43	119.09	123.84
116.25	121.26	124.53	124.07	120.1	127.16
111.95	121.9	119.37	121.14	119.84	121.47
111.25	118.18	123.72	121.3	120.36	122.47
109.35	122.07	119.79	118.97	121.91	123.95
105.65	119.54	115.64	120.56	118.58	117.38
105.9	119.06	116.03	115.64	117.98	119.58
100.9	116.72	109.02	112.94	115.57	112.13
96.7	118.41	106.74	108.62	118.4	110.27

150	150	150	150	150	150
Cal	Cal	Cal	Cal	Cal	Cal
2, R	3, FF	3, L	3, R	4, FF	4, L
87.42	88.54	88.39	88.75	87.97	87.94
97.3	96.33	96.67	96.89	97.21	97.35
107.97	107.83	107.99	108.33	108.04	108.02
120.67	120.54	120.46	120.94	120.36	120.43
121.17	121.29	121.36	121.81	121.02	120.83
118.6	118.83	118.46	119.16	118.38	118.31
125.59	125.51	125.64	126.02	124.43	124.95
127.57	127.36	126.27	127.14	126.77	126.03
126.4	126.14	125.76	126.47	125.41	125.43
129.13	128.12	126.97	128.2	128.03	126.73
127.52	127.77	126.35	127.8	127.19	126.02
126.35	121.72	120.16	121.76	124.87	122.81
132.38	131.43	128.56	131.12	133.47	130.72
132.47	133.03	129.77	132.86	134.63	130.93
130.23	128.91	126.69	129.07	126.66	125.03
130.66	132.68	134.14	134.23	129.78	131.12
127.8	128.38	134.06	133.53	121.65	127.07
133.21	122.1	128.1	129.4	128.72	134.16
131.13	128.26	132.04	133.27	124.11	127.77
133.46	121.48	127.4	128.83	128.99	135.23
136.35	123.02	133.27	134.09	126.33	137.46
135.72	120.4	134.39	134.46	123.4	136.76
137.62	117.63	132.02	134.14	120.27	141.11
134.6	123.01	134.12	136.09	120.08	134.01
128.5	120.76	128.94	130.02	121	130.21
126.03	119.52	120.13	122.7	118.75	120.1
125.9	120.26	122.45	123.13	120.98	129.39
119.11	122.92	117.43	116.62	123.85	122.18
121.13	119.63	119.64	120.33	120.24	122.26
117.78	119.51	120.36	118.3	117.66	117.22
117.09	117.77	112.65	116.86	119.73	118.55
116.52	114.78	111.88	115.22	119.71	118.01
110.95	116.44	108.05	110.31	120.52	109.4
109.04	116.59	103.96	103.23	117.94	108.77

150	150	150	150	150	150
Cal	Cal	Cal	Cal	Cal	Cal
4, R	5, FF	5, L	5, R	6, FF	6, L
88.31	86.62	87.01	87.2	87.82	87.96
97.65	95.36	94.98	95.48	96.98	97.05
108.43	107.48	107.4	107.83	107.22	107.13
120.83	119.94	119.94	120.37	118.93	118.97
121.41	120.13	119.85	120.47	119.92	119.74
118.81	117.39	117.32	117.8	117.57	117.52
125.08	123.94	124.2	124.49	123.53	123.95
127.09	126.13	125.06	126.29	124.94	124.09
125.94	123.67	123.7	124.2	121.74	121.28
127.96	127.61	126.43	127.6	127.54	126.3
127.34	125.53	124.26	125.62	123.8	122.97
124.65	126.62	125.03	126.69	129.16	127.26
133.18	135.07	132.29	134.75	134.22	131.53
134.38	133.41	130.69	133.35	132.67	128.41
126.37	130.02	128.23	129.85	128.79	128
131.66	130.91	131.95	132.48	128.87	129.36
127.49	129.74	133.59	133.68	124.69	129.22
135.23	126.61	131.97	133.31	128.38	134.4
129.19	125.98	129.82	131.26	125.76	129.74
135.22	124.92	130.45	129.36	123.14	129.52
137.26	122.72	132.05	132.82	125.37	135.85
137.12	118.86	132.28	132.6	124.63	138.31
140.68	119.53	133.34	132.88	123.36	137.83
133.15	116.06	134.41	133.53	117.2	131.89
128.1	121.32	132.82	130.28	120.8	129.87
120.86	117.39	126.4	123.19	119.24	120.74
125.85	121.19	123.92	122.78	121.47	124.57
122.02	120.05	122.45	119.98	123.03	121.55
119.11	116.58	119.03	121.86	120.67	119.78
118.05	115.65	119.42	118.1	117.81	115.66
117.02	117.84	114.78	115.25	116.67	117.87
115	116.2	116.25	115.39	116.24	116.22
112.58	117.39	110.19	111.11	114.7	108.06
108.72	115.1	108.88	106.29	116.03	106.08

150	168	168	168	168	168
Cal	Cal	Cal	Cal	Cal	Cal
6, R	1, FF	1, L	1, R	2, FF	2, L
88.38	100.98	101.4	101.28	100.66	101.72
97.4	109.55	105.59	106.42	109.41	106.05
107.57	118.12	117.84	118.14	118.31	116.99
119.39	127.74	127.78	128.15	127.16	127.28
120.32	129.73	129.74	130.24	128.87	129.44
118.01	132.72	132.97	133.32	132.47	132.64
124.14	139.8	140.67	140.72	139.29	140.28
125.21	141.22	140.62	141.67	140.12	140.03
121.85	142.04	142.56	143.01	141.84	142.28
127.59	143.09	142.32	143.58	143.03	142.78
124.1	144.78	144.53	145.59	144.74	144.34
129.02	146.11	145.2	146.65	144.96	144
133.95	149.24	147.48	149.54	148.26	146.51
132.3	148.76	147.36	149.44	147.35	146.01
129.37	147.58	146.62	148.45	147.38	147.37
129.86	148.27	150.19	150.81	148.18	150.32
129.66	142.96	150.16	148.98	145.56	150.04
135.11	144.68	151.92	152.47	145.11	152.37
131.16	145.46	151.7	152.16	146.62	152.27
128.56	148.47	155.9	153.74	148.11	155.7
136.28	147.2	160.35	159.6	146.97	159.63
138.37	146.97	164.72	163.81	146.7	164.61
136.54	147.02	164.84	163.47	146.68	165.7
133.88	144.76	163.36	163	143.97	162.36
131.3	147.76	157.98	158.61	147.6	158.11
121.62	146.99	148.83	151.12	147.22	151.09
124.61	147.48	148.3	146.81	147.3	148.88
125.13	146.99	147.43	144.25	147.3	147.93
120.89	146.53	149.49	148.36	145.46	150.2
118.64	146.65	148.28	146.93	147.16	147.32
117.42	147.17	145.11	144.69	147.04	145.36
113.71	144.72	143.21	144.96	146.74	144.79
110.75	147.19	139.53	138.37	147.02	139.38
105.91	146.76	139.42	139.24	146.13	139.29

168	168	168	168	168	168
Cal	Cal	Cal	Cal	Cal	Cal
2, R	3, FF	3, L	3, R	4, FF	4, L
101.52	100.25	99.78	99.91	101.35	102.39
106.87	108.63	106.69	107.2	108.24	106.92
117.22	118.92	117.41	117.96	118.74	117.14
127.56	127.42	127.54	127.91	127.23	127.34
129.8	127.43	127.44	127.53	127.16	127.03
133.21	132.47	132.69	133.07	132.12	132.36
140.25	139.45	139.99	139.99	139.39	139.69
140.92	141.03	140.56	141.53	141.07	140.65
142.76	142.26	142.98	143.32	142.59	143.3
143.74	143.26	142.65	143.85	143.44	142.81
145.48	143.77	143.71	144.7	143.41	143.44
145.45	145.73	145.06	146.45	145.7	145.06
148.57	148.39	146.71	148.77	147.94	146.1
147.64	150.09	147.59	150.46	149.73	146.99
148.55	147.3	147.27	148.51	147.62	147.05
150.42	148.03	150.28	150.29	148.4	150.82
150.83	145.16	149.45	150.4	145.27	149
153	144.53	151.99	152.81	145.69	152.22
152.87	146.42	152.38	152.66	146.51	152.7
154.07	148.79	156.29	155.41	147.1	155.2
159.59	147.63	159.66	159.92	146.62	160.18
163.76	146.8	164.94	163.79	147.54	165.11
164.25	145.28	165.4	165.09	148	164.08
162.35	144.7	163.1	162.96	143.66	162.65
158.65	147.6	158.27	158.24	147.22	157.66
149.68	147.14	150.21	150.57	147.42	150.33
146.91	148.03	148.24	147.54	148.4	149.6
144.89	146.63	147.72	145.91	147.28	148.22
147.85	147.05	148.94	150.14	146.54	150.25
147.22	147.18	147.09	147.74	147.23	147.64
144.7	146.93	145.16	144.72	146.99	145
144.57	146.88	145.62	143.96	146.54	143.21
138.48	146.85	139.91	138.89	147.01	139.38
139.78	146.41	140.03	140.18	146.12	139.06

168	168	168	168	168	168
Cal	Cal	Cal	Cal	Cal	Cal
4, R	5, FF	5, L	5, R	6, FF	6, L
102.09	101.15	101.57	101.58	100.21	101.2
106.91	108.92	106.61	106.5	109.46	107.09
117.66	118.83	117.66	118.11	118.74	117
127.72	127.22	127.13	127.43	127.51	127.29
127.14	128.59	127.84	128.58	127.53	128.48
132.75	132.26	132.49	133.08	131.46	131.46
139.93	139.27	140.31	140.27	139.21	139.87
141.64	140.4	140.32	141.25	139.27	138.37
143.67	142.2	142.66	143.17	141.84	142.85
144.03	143.01	142.81	143.8	142.97	142.6
144.44	143.82	143.59	144.73	141.86	141.1
146.45	145.4	144.48	145.97	145.25	144.38
148.27	148.51	146.76	148.86	148.44	146.67
150.07	148.51	147.16	148.86	149.38	147.58
148.8	148.62	148.81	149.85	148.12	146.95
150.74	148.71	150.76	151.3	148.3	150.21
150.27	145.69	150.81	151.3	143.05	149.89
153.2	145.12	152.26	152.9	143.77	150.86
152.66	146.04	152.08	152.6	145.48	151.27
155.16	148.29	155.8	153.94	147.54	155.2
159.15	147.26	160.2	159.83	146.26	159.54
164.65	146.86	164.66	164.17	146.06	164.42
165.17	148	165.92	163.43	146.39	164.94
162.91	144	163.23	162.39	144.75	161.95
157.83	147.56	157.95	158.42	148.7	156.95
149.92	145.27	150.51	151.51	145.42	150.06
148.24	148.14	148.79	148.2	146.8	148.6
145.04	147.45	148.71	145.38	146.82	146.68
150.28	146.61	150.69	150.79	145.78	150.57
146.94	147.08	147.98	147	146.45	146.98
144.79	147.07	145.05	145.1	147.04	145
144.24	146.64	142.76	144.15	144.71	145.05
138.12	147.05	139.47	138.37	147.18	139.59
139.12	146.17	139.45	139.06	146.36	139.69

168	132	132	132	132	132
Cal	Test	Test	Test	Test	Test
6, R	1,1, FF	1,1, L	1,1, R	1,1, Est Open L	1,1, Est Open R
100.9	78.33	74.95	73.8	78.52	78.92
107.76	86.82	81.87	79.2	87.14	87.38
117.66	97.96	95.73	95.4	98.12	98.45
127.77	109.5	108.41	108.44	109.4	109.89
128.77	111.51	111.46	111.55	111.65	112.05
132.17	109.23	108.14	108.08	108.95	109.57
139.98	112.41	110.87	110.42	112.45	112.8
139.49	112.62	111.56	112.19	111.75	112.73
143.04	110.81	107.35	106.88	110.29	111.06
143.62	109.32	103.11	103.31	108.03	109.33
142.45	106.97	99.48	99.35	106.1	107.28
145.84	107.44	98.93	98.51	105.62	107.34
148.78	104.8	94.41	95.05	102.29	104.53
149.89	99.45	91.16	92.41	95.77	99.12
148.87	104.36	91.27	93.29	102.47	104.44
150.81	106.77	94.14	92.41	108.06	108.31
148.57	105.28	93.51	91.73	110.54	110.82
151.59	114.95	98.36	98.18	120.12	121.21
151.85	114.82	96.88	96.28	118.58	119.81
153.04	112.31	92.55	90.87	118.84	118.87
159.03	113.73	94.26	93.46	122.96	123.69
163.63	111.87	95.38	92.98	121.4	123.51
162.97	114.12	93.86	95.46	123.41	124.97
161.32	108.75	93.25	92.96	117.5	120.36
158.62	111.03	94.25	93.44	110.77	117.66
151.01	108.54	99.3	90.9	107.88	104.69
146.35	110.79	99.36	92.07	108.62	105.63
144.41	112.32	109.48	97.12	105.33	104.95
149.46	110.87	96.48	89.14	105.76	107.89
147.4	108.09	75.41	77.37	109.73	109.51
144.4	110.2	63.7	58.85	107.12	107.47
143.11	106.59	50.13	48.81	98.3	99.84
138.65	106.46	50.99	49.67	97.49	98.74
139.74	102.57	53.29	50.41	99.28	97.52

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
1,2, FF	1,2, L	1,2, R	1,2, Est Open L	1,2, Est Open R	2,1, FF
78.35	71.16	70.08	79.1	79.19	78.69
86.87	81.3	79.87	87.23	87.45	85.79
97.91	96	96.04	98.04	98.38	96.85
108.46	107.48	107.63	108.35	108.85	107.72
110.24	110.53	110.78	110.48	110.82	108.85
109.62	108.71	108.83	109.37	109.99	104.32
113.41	112.08	111.45	113.37	113.83	102.46
114.03	111.73	112.18	112.65	113.96	107.8
113.9	110.88	110.23	114.2	114.32	117.02
110.5	104.67	104.76	109.31	110.5	117.8
106.29	100.13	99.71	105.69	106.7	112.03
105.65	98.57	98.7	103.84	105.46	115.99
110.8	101.43	102.3	107.7	110.48	115.47
112.83	99.45	102	108.31	112.3	113
107.35	93.93	95.08	105.22	107.03	111.96
109.52	93.08	91.94	111.01	111.71	113.11
112.76	97.61	96.24	117.46	117.94	112.91
115.42	98.19	97.49	119.79	120.95	112.83
113.39	95.06	94.52	117.28	118.05	116.77
111.45	93.24	92.21	116.84	118.5	111.89
109.81	88.51	86.63	118.46	118.84	112.29
111.01	95.22	93.83	124.21	124.92	110.34
111.47	95.74	98.28	122.34	126.73	109.11
113.72	98.01	97.92	122.73	126.4	110.97
115.75	93.21	96.99	114.97	122.01	118.42
111.21	99.35	94.34	109.92	107.86	111.32
110.46	103.68	89.52	106.78	103.78	116.55
115.51	110.13	102.14	105.99	103.16	111.3
109.65	100.53	87.88	104.75	105.72	109.58
108.34	75.7	76.57	111.21	112.02	110.33
106.71	60.43	62.03	108.6	108.46	110.56
111.01	52.45	53.82	100.2	100.55	105.21
104.74	52	52.13	94.14	93.59	106.56
102.58	52.53	52.01	90.89	88.75	105.49

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
2,1, L	2,1, R	2,1, Est Open L	2,1, Est Open R	2,2, FF	2,2, L
79.16	78.78	79.1	79.32	78.17	77.9
85.2	85.96	85.43	86.04	87.29	82.34
95.59	96.01	96.77	97.22	96.89	94.94
106.91	107.1	107.71	108.15	109.26	108.81
106.36	106.23	108.48	109.13	109.29	110.51
102.36	102.12	104.04	104.66	107.99	106.66
99.32	98.82	102.57	102.94	109.81	108.99
105.85	106.31	107.3	108.1	110.23	107.26
114.26	113.34	117.46	117.77	102.92	101.54
111.8	111.84	116.24	117.7	98.78	95.61
102.09	101.93	110.99	112.26	101.33	97.98
105.64	106.02	113.94	115.76	107.44	98.72
104.43	105.35	113.16	115.26	106.1	94.12
100.41	102.26	109	112.58	104.02	91.86
98.56	98.67	109.9	112.13	107.6	94.66
98.27	97.5	114.36	114.54	110.52	98.55
98.83	97.66	117.82	116.52	109.44	96.93
97.09	95.55	118.44	119.27	116.28	98.29
98.15	97.06	121.33	122.31	116.82	98.93
88.96	89.54	119.1	118.12	109.36	89.45
94.3	92.03	123.22	122.35	108.58	90.87
92.65	92.42	123.18	123.73	110.65	90.73
91.24	94.38	121.73	122.47	111.75	92.95
96.85	96.5	120.64	122.34	113.53	98.3
94.24	96.19	117.22	123.57	112.48	96.54
98.71	95.59	108.09	109.04	110.13	97.81
103.32	98.96	109.52	109.03	113.53	96.95
110.65	101.15	104.77	102.69	111.65	107.95
94.62	86.82	108.82	107.15	110.29	99.53
79.52	73.31	109.27	108.73	111.76	80.62
69.23	63.13	109.26	107.09	109.93	68.45
59.41	52.02	98.31	98.05	105.82	58.18
55.92	50.03	95.01	98.61	106.74	49.85
52.34	50.28	95.67	92.73	105.69	53.07

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
2,2, R	2,2, Est Open L	2,2, Est Open R	3,1, FF	3,1, L	3,1, R
77.02	78.52	78.87	78.7	75.83	76.06
81.37	87.31	87.7	87.28	84.97	85.33
94.91	96.67	97.19	97.81	95.63	96.15
108.95	109.43	109.77	108.6	107.81	108.28
110.82	108.97	109.44	111.18	109.64	110.33
107.05	107.89	108.39	108.33	107.31	107.98
108.38	110.2	110.39	110.63	109.48	109.15
107.75	109.42	110.49	110.82	108.41	109.39
100.03	102.38	103.16	107.41	104.27	104.31
94.31	97.69	98.84	106.63	103.72	104.87
97.45	100.07	101.5	104.28	96.32	97.8
98.56	105.41	107.21	113.63	103.84	105.15
95.34	103.65	105.84	115.67	103.61	105.98
93.11	98.68	103.32	107.88	93.21	96.68
94.89	105.48	107.18	117.9	102.57	103.79
96.9	111.96	111.92	114.18	99.59	100.48
95.59	113.94	114.85	109.01	93.59	93.06
98.01	121.2	121.93	116.99	99.03	99.77
97.86	120.12	121.34	117.13	98.54	99.34
86.91	115.92	115.28	114.53	93.34	92.26
87.1	118.29	118.63	109.73	92.2	90.75
89.4	122.37	123.92	109.93	90.75	89.38
93.94	124.49	124.6	109.07	92.03	94.2
99.01	122.04	124.9	111.66	98.06	97.88
95.59	113.59	118.4	115.77	97.23	95.51
95.64	106.45	105.87	110.66	102.82	97.86
97.12	110.29	109.44	110.26	94.04	97.92
99.63	103.29	104.21	112.77	94.03	98.16
85.41	105.25	106.33	108.43	87.29	87.97
73.9	105.27	103.33	105.91	78.43	73.57
54.97	102.85	99.77	110.85	61.5	64.34
50.06	100.08	99.12	106.33	55.87	52.58
49.53	94.33	97.55	105.31	49.45	48.7
50.85	95.51	94.36	105.58	52.6	50.88

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
3,1, Est Open L	3,1, Est Open R	3,2, FF	3,2, L	3,2, R	3,2, Est Open L
79.08	79.38	78.84	75.62	74.8	79.21
87.5	87.79	87.49	82.58	83.03	87.51
97.78	98.21	97.03	95.41	95.71	96.78
108.68	109.07	109.67	108.95	109.35	109.81
111.01	111.57	109.64	111.01	111.34	109.55
108.24	108.71	109.18	107.62	108.28	109.1
111.18	111.28	112.19	111.19	111.34	112.49
109.67	110.89	113.3	110.39	111.68	112.48
107.11	107.77	110.89	107.4	107.66	110.62
105.5	106.69	109.1	102.22	103.65	108.03
103.34	104.55	105.11	99.49	100.09	103.67
111.72	113.48	106.4	97.11	98.23	104.32
113.1	115.38	108.3	97.16	99.47	105.63
104.45	107.64	101.58	88.1	89.89	96.11
115.65	117.93	107.83	96.75	98.04	106.2
115.28	115.5	109.78	96.72	97.69	111.42
114.52	114.46	107.88	94.74	95.33	112.34
121.57	122.08	109.96	94.92	95.82	115.21
120.63	121.64	110.4	92.27	94.02	114.2
120.19	118.92	112.76	92.37	93.23	119.47
118.79	120.43	112.24	94.98	93.83	121.8
121.71	122.42	115.29	93.25	95	126.85
121.34	122.65	111.75	94.12	96.67	123.02
118.7	123.3	110.45	94.41	95.58	118.95
114.89	122.02	111.31	92.96	93.4	112.39
109.21	107.67	108.64	94.2	93.14	109.65
106.39	107.62	110.97	102.95	102.85	107.14
104.76	103.44	113	111.88	105.41	105.6
106.24	108.43	111.3	95.85	94.07	107.06
107.14	106.47	111.92	76.44	75.5	114.8
104.47	104.24	109.56	63.13	67.29	112.72
101.68	99.36	108.03	50.41	62.71	98.42
94.96	97.26	107.64	48.67	54.38	94.37
95.26	90.49	104.43	53.81	52.72	95.24

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
3,2, Est Open R	4,1, FF	4,1, L	4,1, R	4,1, Est Open L	4,1, Est Open R
79.56	76.85	76.01	77.08	77.13	77.57
87.9	86.84	79.18	79.16	86.56	87.09
97.32	98.01	94.81	95.09	98.1	98.47
110.17	109.41	108.79	109.07	109.54	109.91
109.78	112.25	111.16	111.52	112.2	112.7
109.58	109.58	107.93	108.53	109.51	109.99
112.74	112.28	111.15	110.92	112.66	112.86
113.57	113.14	110.23	110.97	112.41	113.46
111.27	110.61	106.54	106.49	110.1	110.88
109.19	104.43	97.89	98.68	103.25	104.45
105.14	102.63	96.69	96.47	101.29	102.54
106.15	108.16	97.08	97.53	106.46	108.13
107.98	114.24	100.76	102.64	111.39	113.91
100.86	112	96.39	99.75	107.5	111.5
108.08	113.44	97.42	98.03	112.11	113.16
111.52	109.92	94.74	94.6	111.19	111.08
113.12	106.61	92.95	91.68	112.89	112.81
116.25	115.34	97.83	97.83	120.57	121.47
115.62	111.39	93.6	94.57	115.42	116.69
119.74	110.02	88.96	86.99	116.11	116.07
122.15	111.52	92.72	90.26	120.66	121.05
128.14	114.25	94.19	93.39	125.89	127.4
124.74	109.26	92.58	95.1	121.47	123.76
121.5	113.61	101.1	97.58	123.04	124.97
116.95	113.14	98.9	94.7	112.77	117.91
106.26	113.4	103.82	100.94	110.2	109.23
106.93	112.95	100.95	103.83	111.32	111.52
104.5	115.49	108.34	108.06	104.81	104.15
108.08	111.16	97.88	87.87	105.78	105.43
116.03	108.4	75.99	77.95	112.79	113.93
112.1	109.5	60.51	62.59	111.01	110.75
100.53	110.77	54.62	58.52	99.98	100.7
95.78	106.94	49.81	53.48	92.96	97.27
94.89	104.74	52.29	50.63	93.99	94.58

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
4,2, FF	4,2, L	4,2, R	4,2, Est Open L	4,2, Est Open R	5,1, FF
77.99	74.38	74.01	78.62	78.77	75.22
85.14	80.71	80.23	85.12	85.24	86
97.7	94.15	94.16	97.55	98.04	97.53
109.64	108.63	108.84	109.55	110.03	109.52
111.24	110.03	110.35	110.75	111.49	110.82
109.57	107.7	107.68	109.37	109.91	108.62
112.28	111.19	110.78	112.94	112.83	111.33
112.26	110.66	111.21	111.84	112.85	110.83
110.95	106.36	106.14	110.42	111.21	105.32
111.02	103.94	104.5	109.78	111.05	106.62
108.47	102.07	102.53	107.47	108.71	101.87
111.25	101.81	102.58	109.19	111.01	114.23
113.64	101.44	103.43	111.04	113.34	116.14
107.07	91.78	94.7	101.92	106.42	107.71
108.91	95.85	96.58	108.11	109.43	108.43
113.39	98.3	97.9	114.7	114.61	113.24
113.61	97.16	96.61	118.6	117.41	116.77
114.85	97.96	97.44	120.23	121.66	122.22
120.08	99.65	99.94	123.46	124.23	122.42
115.86	94.68	93.18	121.02	120.99	109.97
112.75	91.53	91.22	122.36	123.18	112.61
111.95	88.96	89.46	123.58	124.06	113.85
112.66	95.57	94.75	123.68	125.76	112.36
109.3	95.46	95.54	118.5	121.41	107.95
114.39	93.15	88.97	110.27	120.22	110
108.91	97.26	90.3	106.93	108.72	113.3
111.97	98.73	96.94	108.88	108.16	111.81
108.17	107.01	98.52	103.16	103.92	113.44
105.73	90.97	83.39	103.72	103.13	109.75
109.45	78.94	82.55	112.78	113.46	112.46
107.91	61.52	64.49	108.76	109.03	109.03
105.85	57.02	55.22	101.81	100.38	108.14
106.14	55.32	59.11	96.44	97.99	106.82
105.35	52.3	58.42	94.79	96.15	107.12

132	132	132	132	132	132
Test	Test	Test	Test	Test	Test
5,1, L	5,1, R	5,1, Est Open L	5,1, Est Open R	5,2, FF	5,2, L
75.8	75.93	75.72	75.81	78.71	73.17
77.15	78.82	86.37	86.57	86.44	81.97
93.66	94.22	97.76	98.06	97.25	94.34
107.73	108.18	109.48	109.94	107.78	106.67
111.17	111.76	111.06	111.4	109.47	107.27
107.92	108.56	108.31	108.97	104.48	103.29
109.6	109.5	111.52	111.84	102.1	99.4
108.94	109.91	109.6	110.8	105.58	101.75
101.88	101.98	105.68	105.98	111.08	108.08
103.67	104.93	106.18	107.11	113.42	106.88
95.85	97.7	101	102.28	109.77	101.03
104.78	106.31	112.15	113.99	107.07	100.65
103.06	106	113.42	115.82	109.65	98.59
95.3	97.87	104.87	107.43	109.57	96.27
92.99	95.24	107.21	108.32	118.52	101.63
97.29	97.37	114.84	115.03	120.49	105.32
100.34	101.84	120.56	121.28	118.57	103.53
103.75	105.02	127.18	127.72	117.53	100.06
102.65	103.95	125.84	126.96	116.42	96.49
90.25	90.55	115.84	117.09	112.43	94.26
96.2	95.93	122.13	122.23	104.45	83.36
95.99	95.95	124.09	125.63	108.69	89.61
91.63	93.79	123.98	125.27	109.07	89.43
93.71	92.98	115.29	118.95	112.7	96.22
96.86	95.27	114.05	116.15	117.68	96.81
101.24	95.86	110.73	109.71	118.7	110.54
93.03	93.64	109.23	106.95	115.86	97.54
101.61	102.13	108.09	102.76	111.13	102.04
93.42	91.12	108.61	109.29	113.01	106.44
82.83	84.37	109.08	107.95	110.3	81.18
63.29	67.56	105.77	106.16	108.72	68.1
60.95	61.34	103.19	100.62	108.71	62.29
56.1	55.67	98.25	97.9	106.23	54.88
52.43	51.33	98.46	96.43	104.52	52.71

132	132	132	150	150	150
Test	Test	Test	Test	Test	Test
5,2, R	5,2, Est Open L	5,2, Est Open R	1,1, FF	1,1, L	1,1, R
77.42	79.25	79.48	86.11	88.3	85.82
84.7	86.13	86.69	93.84	94.4	92.38
96.07	97.23	97.65	107.85	104.69	104.28
107.53	107.85	108.25	120.64	118.54	118.2
108.35	109.19	109.82	120.61	117.88	117.57
103.79	104.2	104.83	117.7	113.07	111.97
99.06	102.59	102.72	124.56	119.76	118.08
102.66	104.24	105.48	126.92	122.01	121.71
108.7	111.25	111.68	125.08	114.98	113.06
108.92	111.86	113.34	128.77	116.58	116.62
102.88	108.74	109.99	125.29	114.29	113.38
102.51	104.95	106.82	129.4	112.5	113.62
101.08	107.21	109.38	134.27	115.05	117.57
99.63	105.69	109.13	132.51	110.71	113.89
103.57	116.02	118.57	127.78	104.41	106.92
105.5	122.2	122.47	132.36	109.7	107.72
103.05	123.62	122.3	126.61	108.12	106.23
101.1	122.53	123.08	127.4	107.12	106.35
97.98	120.06	120.65	130.98	106.83	104.95
93.55	118.34	118.02	129.13	102.3	103.15
86.79	112.02	112.49	125.48	98.68	98.8
89.45	121.32	121.77	121.84	96.77	96.04
91.56	120.84	120.33	123.87	99.79	104.92
95.72	119.91	122.5	120.43	104.94	101.11
96.76	116.53	124.48	122.74	106.53	104.48
105.47	117.37	116.58	121.56	109.03	107.29
93.52	111.82	111.5	121.33	108.7	100.7
100.48	105.79	104.55	123.08	118.12	104.45
100.54	110.72	112.63	120.23	103.7	95.23
80.52	118.41	119.61	120.12	93.17	88.26
68.29	115.25	115.92	117.33	75.81	74.79
63.15	103.26	103.62	118.58	77.01	73.45
51.12	100.54	101.65	118.96	70.81	64.25
51.56	101.91	101.36	117.08	64.83	63.7

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
1,1, Est Open L	1,1, Est Open R	1,2, FF	1,2, L	1,2, R	1,2, Est Open L
86.34	86.41	88.02	91.32	90.47	87.74
93.88	93.9	96.61	98.31	98.05	96.8
107.75	108.19	107.82	105.15	104.9	107.73
120.59	121.05	119.78	117.79	117.68	119.77
120.22	120.91	120.15	116.29	116.21	119.88
117.74	118.14	117.25	111.72	111.62	117.15
124.74	124.92	122.85	117.74	116.85	123.11
125.65	126.94	123.72	119.58	119.77	122.77
124.42	125.27	123.13	115.89	113.76	123.38
127.57	128.82	128.94	117.82	118.17	127.59
124.6	125.65	125.7	112.18	112.26	124.8
127.61	129.33	132.79	116.88	117.49	131.01
131.38	133.91	132.94	113.31	115.37	130.33
129.12	131.92	130.16	107.81	110.42	127
127.12	128.25	129.57	105.95	106.92	127.74
133.59	133.81	129.14	109.99	110.53	130.14
132.67	131.28	127.62	107.95	107.08	132.1
132.87	133.66	127.51	102.91	103.24	132.91
134.69	135.94	129.65	104.24	102.4	133.22
134.97	132.84	124.39	101.68	99.31	130.6
137.52	136.83	121.38	98.57	97.4	132.4
135.29	135.95	120.03	97.72	97.77	134
135.54	135.61	126.53	104.87	105.93	139.56
129.95	130.53	123.32	107.65	106.18	129.95
125.22	126.3	126.28	107.02	106.6	127.11
118.33	118.41	121.77	111.35	102.68	118.85
118	116.42	124.15	107.73	104.33	120.99
114.03	115.5	125.47	115.58	110.4	115.63
117.08	116.96	122.36	112.14	101.86	117.04
115.19	111.91	121.17	94.83	87.17	115.69
113.03	113.78	119.59	77.36	75.03	112.76
112.73	111.33	118.19	78.05	61.63	110.39
104.17	103.32	117.94	68.64	63.15	104.55
101.87	100.02	116.27	63.37	64.16	103.59

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
1,2, Est Open R	2,1, FF	2,1, L	2,1, R	2,1, Est Open L	2,1, Est Open R
88.21	88	86.5	84.59	87.81	88.27
97.05	96.18	96.15	93.83	96.37	96.62
108.17	106.8	105.08	104.04	106.75	107.17
120.21	116.63	114.64	113.75	116.71	117.1
120.5	118.53	115.59	114.47	118.7	119.1
117.65	119.33	114.66	113.36	119.11	119.72
123.39	124.98	120.33	118.71	125.01	125.36
123.96	126.33	120.42	120	124.75	126.17
123.39	127.95	119.25	116.98	127.73	128.14
128.95	130.82	119.88	119.62	129.59	130.86
125.98	126.99	113.11	113.1	126.37	127.39
132.73	129.13	111.58	112.06	127.22	128.98
132.68	132.2	112.73	114.88	129.48	131.93
130.02	132.23	111.74	113.3	129.51	132.22
129.9	129.96	107.65	108.31	127.91	129.89
130.62	128.82	104.43	104.81	129.79	130.53
132.67	121.25	105.78	102.63	127.25	126.18
133.85	121.93	103.92	104.28	126.88	127.24
134.47	129.02	104.58	103.59	132.86	133.79
128.91	126.75	99.32	98.79	132.53	134.24
132.78	125.68	100.81	97.59	137	136.96
134.21	126.65	101	99.55	139.79	140.05
140.46	125.54	104.14	105.17	138.6	138.71
134.12	123.57	102.42	104.37	130.65	134.96
128.64	122	99.41	100.27	126.46	126.73
122.49	120.92	101.25	102.48	120.25	119.54
122.08	122.13	106.96	103.28	118.44	117.91
117.08	120.02	113.85	109.13	115.81	115.19
116.77	121.05	100.13	93.22	115.59	114.67
114.36	121.35	88.24	84.26	115.46	111.81
112.64	122.03	80.74	73.03	114.49	115.5
112.02	116.92	73.84	69.54	108.67	109.53
106.17	117.14	67.25	65.87	104.01	105.14
101.31	116.09	64.49	63.77	102.75	100.93

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
2,2, FF	2,2, L	2,2, R	2,2, Est Open L	2,2, Est Open R	3,1, FF
87.5	90.15	87.89	87.05	87.53	87.72
97.17	97.69	96.75	97.12	97.5	96.36
106.24	105.51	104.59	106.48	106.74	106.48
118.93	116.58	116.26	118.99	119.39	118.09
117.67	117.69	117.29	117.05	117.81	118.2
117.66	112.84	112.29	117.58	118.1	116.38
123.41	119.59	117.95	123.86	123.74	123.19
124.05	120.01	120.26	123.75	124.66	124.5
125.86	115.94	114.53	125.31	126.12	123.18
129.95	119.08	118.7	128.84	130.03	128.53
125.62	112.84	112.01	124.11	125.51	125.42
132.08	115.69	115.33	130.18	131.95	127.96
133.98	114.65	115.81	131.3	133.68	133.1
131.55	110.55	112.6	128.46	130.97	132.86
129.75	106.62	106.16	127.31	129.87	129.61
127.62	107.84	106.62	128.46	128.52	130.72
122.94	107.04	105.08	131.11	130.34	124.01
131.43	108.89	109.4	136.63	138.13	124.69
127.65	103.01	100.95	131.65	132.32	121.8
124.04	96.64	96.38	129.99	130.27	121.83
126.33	100.53	100.09	138.34	138.35	123.14
123.73	97.15	97.07	137.3	137.38	118.39
120.89	104.61	97.86	135.21	135.17	123.32
121.07	106.26	107.01	126.92	130.62	125.56
124.02	105.1	105.02	125.77	126.74	124.64
120.51	111.77	108.67	121.56	118.02	120.06
122.37	106.9	104.98	117.08	117.44	122.13
124.6	116.27	109.16	116.64	114.99	124.98
120.96	108.13	97.99	115.57	114.83	116.23
116.87	91.79	83.3	113.33	111.73	116.5
117.55	72.48	73.58	110.79	109.04	116.6
116.1	87	72.83	108.8	107.17	117.85
117.67	73.85	65.39	103.83	106.22	115.71
117.35	63.61	63.82	100.82	101.28	112.81

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
3,1, L	3,1, R	3,1, Est Open L	3,1, Est Open R	3,2, FF	3,2, L
93.43	91.96	87.33	87.81	87.64	91.23
99.4	98.35	96.39	96.72	95.36	98.61
106.38	105.97	106.2	106.73	106.48	105.88
116.6	116.79	118.24	118.59	119.72	117.35
115.6	116.24	117.71	118.45	118.38	117.19
112.05	112.35	116.35	116.75	116.59	110.31
118.55	118.3	123.45	123.75	122.7	118.23
118.77	120.01	123.26	124.47	123.86	119.12
114.69	113.71	123.46	123.68	126.06	117.06
117.16	118.56	127.19	128.54	130.18	118.29
111.51	112.21	124.5	125.69	125.94	110.05
111.92	113.77	126.36	128	132.65	116.59
114.01	117.48	130.31	132.79	133.89	114.09
110.29	115.01	128.78	132.51	132.75	108.54
105.21	108.38	127.79	129.45	132.57	111.1
108.52	107.37	131.96	132.55	129.85	108.19
105.57	104.47	130.82	130.03	125.26	105.99
102.77	102.68	130.89	131.45	125.04	105.83
99.99	101.72	125.06	126.74	130.17	107.12
94.68	93.66	128.09	128.82	124.04	96.17
100.85	100.06	134.62	134.63	119.35	103.09
95.4	93.83	132.03	132.1	119.95	99.8
104.63	102.74	136.09	136.96	122.84	99.61
107.48	103.8	130.6	136.64	123.96	104.85
106.14	100.74	124.55	124.81	119.14	105.29
107.51	103.77	119.48	118.83	121.56	105.23
106.82	112.64	118.71	117.33	118.91	105.37
105.74	120.93	115.2	116.03	122.84	106.8
94.58	104.57	114.09	114.55	119.98	96.37
84.33	85.73	113.75	108.68	119.07	84.43
71.3	81.2	110.27	109.14	117.15	71.44
72.38	78.27	108.44	107.99	117.8	69.2
62.85	64.53	101.83	105.18	117.74	63.88
64.08	67.71	99.31	98.5	117.93	65.86

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
3,2, R	3,2, Est Open L	3,2, Est Open R	4,1, FF	4,1, L	4,1, R
90.84	87.84	88.13	88.16	88.97	92.03
99.28	95.8	95.98	96.02	97.12	99.22
106.47	106.74	107.01	107.56	105.57	106.9
117.89	119.73	120.17	120.08	118.25	118.92
118	118.75	119.03	120.64	116.64	117.6
111.32	116.47	117	117.63	111.58	112.35
118.16	123.33	123.28	123.93	118.29	118.26
120	123.37	124.38	125.83	119.39	120.63
115.93	125.97	126.24	124.84	115.22	114.55
119.85	128.88	130.2	129.42	116.61	118.11
111.9	125.19	126.29	126.35	110.56	111.71
118.53	131.03	132.68	129.74	113.53	114.9
118.56	131.08	133.55	134.43	114.68	117.21
115.61	128.36	132.34	133.62	111.19	114.37
110.12	130.5	132.6	130.26	107.23	107.53
107.16	130.77	131.04	131.27	108.29	109.04
104.15	131.8	130.66	123.36	100.31	100.71
106.97	130.09	131.78	127.92	107.6	107.89
107.08	133.75	135.01	131.76	108.73	108.69
98.45	129.38	131.02	130.04	102.6	100.72
101.66	130.62	130.87	125.51	100.67	97.66
98.3	134.57	134.16	123.05	97.43	97.82
103.94	136.6	135.7	121.96	98.45	101.16
101.72	128.97	134.51	123.51	102.16	102.74
97.58	122.85	123.2	126.45	103.97	103.3
103.6	119.94	118.78	125.44	108.68	104.08
113.46	116.42	115.86	123.53	117.31	103.51
116.33	116.66	115.08	121.96	115	105.99
94.71	114.67	113.54	120.71	96.74	91.37
95.18	115.12	111.57	123.01	93.23	83.08
81.56	109.15	109.56	119.45	75.79	77.05
75.19	110.02	109.01	120.33	70.55	73.96
64.48	102.66	103.54	117.79	69.1	64.9
65.76	100.68	99.49	115.06	63.12	63.77

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
4,1, Est Open L	4,1, Est Open R	4,2, FF	4,2, L	4,2, R	4,2, Est Open L
88.1	88.51	86.74	88.77	83.78	85.96
96.32	96.53	96.79	96.17	94.8	96.53
107.7	108.03	108.15	105.31	104.88	108.22
119.99	120.47	120.31	118.22	118.27	120.46
120.73	121.16	121.1	116.26	116.36	121.06
117.22	117.95	118.64	112.3	112.65	118.45
124.26	124.51	124.93	119.38	118.7	124.85
124.52	125.75	126.26	121.36	122.28	125.88
125.23	125.4	126.34	114.83	114.98	125.79
128.03	129.41	129.22	116.38	117.33	128.15
125.43	126.61	126.19	112.19	113.37	124.58
128.16	129.8	131.71	114.46	115.51	130.03
131.65	134.12	134.86	114.27	116.86	132.15
129.86	133.34	134.79	113.27	115.49	131.87
128.41	130.14	128.38	108.1	108.93	125.87
132.59	133.21	123.83	103.45	103.73	125.49
129.32	127.87	124.16	107.46	106.9	131.49
133.58	134.62	131.18	108.26	108.39	137.02
135.43	136.61	127.98	101.44	102.64	131.92
135.77	134.02	122.81	96.71	97.61	128.85
137.62	137.21	127.39	103.37	102.32	139.83
135.85	136.03	126.42	100.65	101.05	140.04
133.46	135.38	125.87	101.33	102.84	137.86
128.22	134.01	125.73	106.78	105.56	130.31
124.67	125.63	123.32	102.74	103.9	125.33
118.39	118.05	122.17	108.29	106.86	119.35
119.39	118.31	124.2	109.45	104.06	116.96
115.98	117.37	123.27	118.87	106.92	117.33
116.67	115.1	120.86	103.02	98.64	116.08
115.04	112.34	118.95	88.16	83.37	111.26
112.12	113.06	119.4	75.48	71.77	113.44
111.01	110.62	118.44	70.07	74.75	110.82
104.26	103.14	116.82	67.12	63.53	103.14
100.56	100.02	116.77	64.59	70.34	103.15

150	150	150	150	150	150
Test	Test	Test	Test	Test	Test
4,2, Est Open R	5,1, FF	5,1, L	5,1, R	5,1, Est Open L	5,1, Est Open R
86.62	88.01	91.4	90.48	88.42	88.6
97	97.51	99.23	98.94	97.48	97.86
108.58	107.45	105.42	105.36	107.2	107.72
120.81	120.15	118.01	118.33	120.27	120.64
121.56	118.6	117.93	118.38	118.08	118.75
118.99	117.55	111.57	112.23	117.42	117.97
125.32	123.7	118.24	118.03	123.69	124.11
126.86	124.67	120.18	121.19	124.22	125.23
126.6	125.21	116.43	116.23	125.21	125.71
129.31	128.52	115.93	117.74	127.14	128.46
126.16	125.96	111.78	113.49	124.57	126.02
131.71	128.25	112.19	113.43	126.32	128.1
134.53	132.92	113.43	117.01	130.14	132.61
134.74	132.28	110.05	114.97	127.86	131.86
128.17	130.34	108.71	110.28	128.96	130.72
125.98	132.11	110.62	109.56	133.4	133.36
130.73	124.17	100.02	99.58	128.24	128.82
137.68	124.87	101.69	102.24	129.91	130.09
132.4	127.59	101.93	105.01	131.37	132.69
130.18	127.59	100.46	97.36	133.66	132.14
139.58	124.13	95.43	97.47	135.5	135.34
139.98	124.13	101.18	98.48	137.27	137.57
140.25	122.76	104.78	101.22	137.86	136.87
136.95	120.83	108.06	106.61	131.21	133.77
128.02	121.44	106.06	103.77	123.14	125.42
118.96	120.59	111.5	105.83	119.42	116.9
115.32	124.84	108.14	104.48	120.48	120.53
116.36	124.04	108.07	108.05	116.99	117.24
117.08	122.75	107.02	98.57	114.44	116.69
112.13	119.16	92.3	97.16	114.56	113.77
113.07	121.19	78.92	83.61	113.61	112.39
112.73	118.72	73	80.79	108.01	109.77
104.95	119.78	65.05	75.03	103.85	105.92
102.42	116.83	63.42	66.06	102.88	101.64

150	150	150	150	150	168
Test	Test	Test	Test	Test	Test
5,2, FF	5,2, L	5,2, R	5,2, Est Open L	5,2, Est Open R	1,1, FF
88.9	91.88	88.57	89.11	89.36	100.47
97.29	98.78	97.41	97.09	97.54	109.56
107.51	106.05	105.35	107.64	107.98	118.52
119.95	118.56	118.57	119.87	120.35	127.66
120.4	117.49	117.69	120.48	120.92	129.39
117.16	112.36	112.3	116.82	117.48	132.68
123.62	118.88	118.21	123.99	124.22	140.13
125.39	120.07	120.99	124.06	125.33	141.14
124.5	115.06	114.35	124.08	124.66	141.81
129.39	117.84	119.19	128.11	129.42	143.34
125.4	112.1	113.12	124.6	125.72	143.95
130.66	114.85	116.16	128.64	130.45	145.08
134.67	115.57	119.06	131.94	134.37	149.04
132.93	110.6	115.18	128.99	132.61	150.43
127.05	105.18	106.96	125.91	127.49	148.34
130.87	109.78	110.29	132.38	132.86	147.94
123.47	104.47	102.99	128.7	127.94	142.94
126.04	101.77	103.19	131.1	132.65	145.61
131.19	107.39	107.26	135.04	136.34	146.15
123.95	97.07	96.28	128.91	130.45	147.95
123.18	97.83	98.63	134.96	135.05	146.58
125.23	102.53	100.75	138.56	138.69	147.49
120.49	101.3	102.58	134.73	134.4	147.89
122.04	104.48	104.27	131.14	132.56	142.97
124.99	104.1	103.3	127.06	130.62	147.23
122.76	107.2	103.82	120.16	118.68	147.41
126.72	103.25	103.6	121.9	118.68	148.21
123.59	108.96	109.22	117.18	115.57	147.03
121.96	102.43	97.89	116.15	115.2	144.85
117.57	87.94	91.24	112.9	111.84	147.23
117.2	75.4	80.66	110.25	109.47	146.94
115.63	70.01	76.14	108.72	109.34	146.7
117.56	66.78	68.03	102.67	104.06	146.54
118.33	64.24	64.31	102.16	102.69	146.7

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
1,1, L	1,1, R	1,1, Est Open L	1,1, Est Open R	1,2, FF	1,2, L
111.04	110.15	101.96	101.74	97.64	109.13
115.26	114.21	106.26	106.99	108.28	114.96
119.29	117.83	117.19	117.39	118.37	120.1
125.31	124.09	127.88	128.18	126.58	124.43
123.74	122.57	129.88	130.28	128.52	121.46
124.99	124.02	132.83	133.4	132.61	124.8
131.07	129.82	140.9	140.99	139.02	130
130.69	130.72	140.92	141.82	140.55	129.47
128.6	126.16	142.07	142.65	141.28	129.01
122.34	123.65	142.94	144.01	142.74	121.54
117.62	120.54	143.45	144.67	142.1	117.15
116.11	120.56	144.44	145.82	145.7	118.04
120.52	125.59	147.19	149.35	148.75	120.72
118.73	124.23	147.24	150.56	148.29	118.78
117.05	120.23	147.28	149.28	147.83	115.21
118.64	119.31	150.2	150.66	148.37	119.24
112.61	109.62	150.19	148.99	144.73	112.3
114.22	112.91	152.66	153.13	145.09	112.68
116.66	115.44	152.46	152.61	145.59	115.61
116.44	115.9	155.22	153.37	145.76	114.5
116.87	116.94	159.84	158.69	146.75	116.8
119.35	118.29	165.43	164.71	146.38	120.63
119.23	120.29	163.64	165.76	146.81	118.78
115.67	116.44	161.12	161.61	144.13	118.59
111.41	110.19	157.41	157.72	148.09	117.28
113.49	108.8	150.65	149.71	146.3	113.04
121.51	116.63	149.55	148.25	148.38	122.65
131.11	119.93	147.92	145.07	146.2	128.85
119.97	116.09	150.07	149.84	147.05	120.88
107.31	104.49	147.16	146.29	146.9	106.88
101.04	99.48	144.61	144.61	147.09	103.06
105.55	107.1	143.81	143.29	147.22	104.69
103.6	98.68	139.94	137.82	146.75	98.29
96.9	92.16	139.58	138.41	146.39	103.89

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
1,2, R	1,2, Est Open L	1,2, Est Open R	2,1, FF	2,1, L	2,1, R
107.24	99.65	99.77	100.73	110.65	110.21
113.01	106.58	107.08	109.24	115.29	114.29
117.95	117	117.51	117.38	118.27	117.02
123.17	126.79	127.11	126.77	124.09	122.85
120.14	127.47	128.3	129.32	123.31	122.12
124	132.67	133.2	132.37	124.4	123.83
128.93	139.44	139.7	139.43	130.39	129.57
129.61	140.25	141.23	140.66	129.47	129.17
127.04	142.29	142.49	141.66	128.92	127.09
122.76	142.41	143.42	143.38	123.47	123.72
119.41	141.31	142.69	141.23	119.5	120.12
121.47	144.83	146.29	145.09	117.64	120.37
125.43	147.06	149.13	148.22	120.47	123.91
122.45	147.11	149.08	147.35	118.91	121.3
119.16	147.23	148.96	147.64	117.58	118.28
119.62	150.82	150.86	148.24	120.38	120.58
111.82	148.56	149.29	145.01	112.32	113.47
111.78	151.96	151.98	144.31	112.89	111.74
114.32	151.7	152.51	146	116.55	114.89
116.9	153.9	154.99	147.92	116.66	117.29
117.35	159.58	159.4	146.99	118.73	116.92
119.08	164.48	163.93	146.3	116.95	117.92
120.1	165.31	163.43	145.88	117.45	116.27
118.69	161.73	161.85	144.92	113.69	115.06
114.42	158.08	158.83	147.87	110.81	109.46
111.73	151.41	150.58	145.11	111.58	109.55
110.02	149.18	147.71	147.49	118	113.49
123.15	146.53	143.54	146.72	125.28	119.94
116.96	148.61	148.9	145.97	123.43	112.81
104.58	146.27	145.78	146.68	107.81	103.83
102.63	144.4	144.38	147.24	107.26	103.57
102.84	144.44	142.93	145.44	111.16	98.52
88.82	139.79	137.38	147.17	98.12	98.25
97.76	139.27	138.19	146.68	102.88	100.15

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
2,1, Est Open L	2,1, Est Open R	2,2, FF	2,2, L	2,2, R	2,2, Est Open L
101.98	101.82	100.67	111.65	111.33	101.93
105.21	106.06	109.37	116.1	115.38	105.52
117.06	117.34	117.99	119.16	118.58	117.41
127.05	127.37	127.56	125.11	124.5	127.8
129.62	130.07	129.58	123.99	123.27	129.86
132.47	132.97	132.75	124.95	124.33	132.86
139.81	140.09	139.99	130.54	129.49	140.36
140.3	141.31	141.42	130.12	129.96	141.01
142.64	142.86	142.26	129.44	127.06	143.15
142.99	144.04	143.07	122.04	122.03	142.65
141.08	141.9	141.82	117.65	120.24	141.61
144.14	145.64	145.63	118.48	121.32	144.66
146.45	148.54	149.12	121.53	125.22	147.32
146.45	148.23	149.13	120.25	123.14	146.67
147.44	148.82	148.17	120.54	119.73	148.43
150.47	150.41	148.77	120.84	122.67	150.84
149.09	150.13	146.05	114.43	114.62	151.22
151.27	152.19	145.57	114.93	111.58	152.6
152.09	152.07	146.15	116.46	115.06	152.51
155.72	155.25	148.4	115.25	116.57	155.82
159.52	158.95	146.64	117.32	116.84	160.08
164.33	163.89	147.57	118.43	116.89	165.41
163.71	164.83	148.63	122.12	119.57	166
162.57	161.97	143.76	114.65	116.82	162.02
158.07	159	146.44	112.76	108.8	156.15
150.67	151.17	147.05	112.62	114.25	149.32
148.34	147.13	147.97	121.17	117.95	148.93
147.28	144.33	147.92	125.08	122.62	148.39
150.03	150.33	146.84	114.95	116.98	149.3
147.01	146.49	146.52	106.98	103.81	147.53
144.62	144.47	147.49	104.35	103.05	145.01
143.12	144.56	145.71	100.48	102.73	143.26
138.97	137.61	147.29	93.25	103.9	139.03
138.72	138.28	147.01	103.86	100.59	138.94

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
2,2, Est Open R	3,1, FF	3,1, L	3,1, R	3,1, Est Open L	3,1, Est Open R
101.76	97.53	108.34	108.61	100.08	100.11
106.34	108.53	113.8	113.72	107.19	107.63
117.67	118.9	119.87	120.19	117.73	118.2
128.14	127.23	124.5	124.89	127.31	127.63
130.32	128.47	121.66	122.35	127.56	128.35
133.36	132.49	124.98	125.35	132.63	133.19
140.65	139.4	130.53	130.63	140.13	140.24
142.04	140.49	129.79	131.05	140.38	141.23
143.42	141.91	129.25	128.67	142.45	142.71
143.72	143.19	122.31	124.46	142.74	143.84
142.43	144.28	119.56	122.26	143.73	144.98
146.17	145.35	116.46	120.34	144.69	146.07
149.43	148.01	118.7	124.88	146.14	148.3
148.92	149.94	117.21	123.95	147.09	150.2
149.49	147.91	116.89	120.14	147.48	149.1
151.37	148.5	119.33	119.42	150.8	150.63
151.64	145.63	111.06	112.7	149.22	150.5
153.18	145.46	113.01	115.04	152.12	153.19
152.81	146.64	115.83	115.21	152.74	152.72
153.29	147.11	114.73	114.57	155.04	154.91
159.46	147.46	118.05	120.55	160.7	159.47
164.45	147.51	118.98	117.93	165.36	164.95
165	147.73	114.96	122.55	164.09	166.09
162.39	143.85	117.22	112.77	161.74	161.62
156.82	147.02	114.33	108.58	156.68	157.76
151.41	146.69	112.23	117.59	150.79	148.9
146.92	148.18	114.33	116.55	149.72	148.25
145.19	147.38	123.94	122.86	147.53	144.47
148.77	145.99	120.91	114.16	149.66	147.71
147.02	146.84	106.71	101.11	146.94	147.24
144.88	147.17	104.77	97.32	145.13	144.51
144.81	144.97	105.02	103.32	144.81	144.25
137.69	146.99	91.17	98.83	139.42	137.77
138.58	146.83	102.25	104.43	138.94	138.77

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
3,2, FF	3,2, L	3,2, R	3,2, Est Open L	3,2, Est Open R	4,1, FF
99.69	110.9	110.9	101.89	101.71	99.18
109.36	115.46	115.3	105.28	106.17	108
118.16	119.89	120.04	117.78	118.1	118.49
127.6	124.53	125.18	127.51	127.93	127.77
128.56	123.27	123.46	128.61	129.13	129.56
131.97	125.16	125.71	132.2	132.57	131.99
139.12	130.39	130.67	139.72	139.76	139.67
139.98	127.43	129.08	139.6	140.57	140.35
142.64	129.71	129.28	143.32	143.69	141.78
143.22	122.23	124.65	142.51	143.75	143.06
142.1	117.15	121.1	142.04	143.03	142.98
145.66	118.7	122.73	144.93	146.35	145.68
148.3	119.51	125.62	146.63	148.69	148.58
149.84	117.54	124.12	147.25	150.17	149.3
147.72	118.04	121.24	147.85	149	147.55
148.13	118.34	119.31	150.17	150.6	148.72
145.09	110.75	111.72	149.84	150.53	144.12
144.5	112.13	114.82	151.74	152.42	145.1
146.37	115.95	116.04	152.19	152.72	146.95
148.66	116.93	114.16	156.18	154.34	148.52
147.11	119.36	118.34	160.28	159.86	146.95
146.91	117.37	117.76	164.56	164.1	148.02
145.66	113.82	123.47	163.97	161.8	146.57
146.37	117.7	116.23	164.18	163.34	143.78
147.24	113.73	114.44	158.1	158.76	147.17
145.33	112.42	116.37	150.71	150.45	146.77
147.82	116.2	123.57	148.49	147.04	148.02
147.04	125.52	123.31	147.1	144.5	147.67
146.7	121.72	115.3	149.68	150.55	146.3
146.84	108.17	105.02	146.75	147.21	146.85
147.15	105.04	97.85	145.14	144.6	147
145.7	106.02	103.8	145.17	144.75	145.96
146.96	92.63	102.92	139.52	137.92	146.58
146.95	105.71	98.7	139.16	139.06	146.56

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
4,1, L	4,1, R	4,1, Est Open L	4,1, Est Open R	4,2, FF	4,2, L
110.08	109.83	99.39	99.01	99.1	110.41
113.35	112.94	105.68	105.37	108.85	114.95
118.89	118.65	117.85	118.22	118.27	118.66
123.99	123.69	127.6	128.04	127.1	122.98
122.45	122.21	129.31	129.9	128.98	121.6
124.53	124.44	132.16	132.63	131.66	124.02
129.68	129.73	140.37	140.4	138.74	129.04
129.13	129.81	139.33	140.62	139.9	127.64
128.36	126.98	142.88	143.03	141.69	128.5
121.1	124.02	142.53	143.64	142.96	121.24
117.56	121.58	142.25	143.6	143.33	117
116.63	122.58	144.86	146.3	146.01	118.31
119.3	126.45	146.88	148.95	148.63	119.52
118.77	125.87	147.55	149.9	149.57	118.55
114.69	121.33	147.09	148.13	146.9	115.63
117.93	117.83	150.61	150.82	147.66	117.65
113.36	111.51	151.48	150.77	145.45	111.73
111.86	115.02	152.36	153.16	145.13	113.1
115.44	117.39	152.88	153.17	145.81	115.55
116	114.75	156.08	154.79	147.97	115.77
117.58	118.36	159.32	159.2	146.66	116.75
120.67	119.75	166.14	165.3	146.97	118.86
115.24	124.19	166.13	165.48	146.98	118.16
116.99	120.72	161.93	162.44	143.6	116.93
115.13	106.82	157.29	157.48	147.32	112.93
113.76	108.98	149.21	149.85	147.29	113.29
122.52	124.82	148.75	147.64	147.77	123.8
128.69	118.62	148.03	145.52	146.54	129.46
116.47	109.61	148.7	149.85	144.63	117.09
99.49	106.21	146.76	146.91	147.09	100.28
95.29	98.05	145.21	144.66	146.57	96.42
103.33	101.86	145.17	144.04	146.81	103.52
88.28	98.54	139.57	138.13	146.42	90.12
101.78	94.42	139.07	138.78	146.41	93.68

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
4,2, R	4,2, Est Open L	4,2, Est Open R	5,1, FF	5,1, L	5,1, R
109.73	101.12	101.1	101.32	110.51	110.55
113.85	105.79	105.53	109.08	115.14	115.17
117.91	117.53	117.92	118.11	118.36	118.32
122.9	126.9	127.35	127.36	123.33	123.48
121.56	128.77	129.36	129.07	121.6	121.77
123.93	131.64	132.39	131.55	124.05	124.28
129.26	139.37	139.47	138.84	129.76	129.82
128.43	139.05	140.25	140.18	128.05	129.24
127.35	142.22	142.48	142.02	129.06	128.36
123.8	142.45	143.58	142.99	121.72	124.29
120.6	142.75	144.02	144.38	118.81	121.45
123.49	145.28	146.67	146.09	119.04	122.61
126.59	146.94	149.01	148.62	120.04	126.12
125.6	147.28	150	150.07	118.57	124.79
121.68	147.15	148.25	147.36	115.1	119.87
117.63	149.64	150.26	147.67	119.07	118.15
112.15	150.63	151.05	144.35	111.73	110.74
113.94	152.12	152.67	144.43	111.61	113.16
116.31	152.13	152.27	145.34	115.39	115.93
113.38	155.37	152.99	146.12	116.87	114.4
118.12	159.67	158.4	146.71	116.15	117.07
118.27	164.94	164.23	146.49	118.99	118.24
122	163.13	164.65	146.16	119.24	122.72
120.67	161.88	162.26	144.82	116.84	118.25
107.73	157.85	158.41	148.12	118.32	113.09
109.51	150.2	149.38	145.51	113.05	111.34
123.24	148.95	147.74	147.27	115.56	115.39
121.55	147.12	144.29	146.54	127.64	122.66
107.74	149.87	149.7	145.19	121.48	113.7
102.97	147.17	146.36	146.85	108.69	106.28
95.42	144.51	144.61	146.98	103.95	101.22
99.76	143.74	143.93	146.56	104.66	107.67
98.14	139.54	137.52	146.35	101.81	100.24
92.53	139.31	138.01	146.72	94.36	96.2

168	168	168	168	168	168
Test	Test	Test	Test	Test	Test
5,1, Est Open L	5,1, Est Open R	5,2, FF	5,2, L	5,2, R	5,2, Est Open L
101.61	101.57	100.36	108.86	109.13	101.08
105.54	105.26	109.02	113.94	114.31	107.48
117.46	117.83	118.91	119.14	119.91	117.63
127.21	127.65	127.25	124.13	124.78	127.5
128.87	129.45	128.11	120.18	121.32	126.98
131.74	132.11	132.54	124.21	124.91	132.62
139.52	139.63	139.46	129.77	129.97	139.91
139.44	140.59	140.78	129.19	130.38	140.48
142.26	142.85	141.67	128.48	127.61	142.7
142.55	143.64	143.03	121.95	124.11	142.71
143.91	145.12	142.52	118.53	121.26	141.69
145.39	146.77	145.2	116.35	120.09	144.29
146.76	148.92	148.1	119.33	124.22	146.38
147.32	150.35	148.47	118.6	122.52	147.05
146.96	148.51	148.36	116.03	120.05	147.29
150	149.91	148.78	121.63	119.56	151.23
148.27	149.03	145.32	114.72	111.21	150.23
151.28	151.55	145.62	113.22	114.08	152.52
151.58	152.32	145.74	115.29	115.54	151.69
154.33	155.18	145.47	115.85	112.75	153.02
159.94	159.45	147.54	116.61	118.9	160.06
164.25	163.42	147.06	117.28	119.88	165.13
164.21	161.74	147.76	118.36	121.56	166.74
162.55	161.99	143.47	116.17	118.74	161.49
158.32	159.5	146.87	113.73	110.25	157.02
150.37	151.15	147.2	113.13	113.55	150.7
148.37	147.3	148.15	117.23	113.42	149.53
147.15	144.36	147.25	124	128.15	147.37
150.08	149.87	143.93	119.87	118.29	149.65
146.49	145.73	147.35	106.72	105.15	147.09
144.25	144.33	147.04	101.59	99.31	144.77
143.93	143.46	146.99	106.07	107.93	144.53
139.69	137.79	146.86	99.5	101.47	139.69
139.35	138.16	146.5	96.4	94.12	139.35

168	132	132	150	150	168
Test	T(f)	T(f)	T(f)	T(f)	T(f)
5,2, Est Open R	L	R	L	R	L
100.73	0.43	0.74	0.08	0.4	0
107.94	0.04	0.4	0	0.36	0
118.13	0.03	0.43	-0.02	0.39	0
127.84	0.05	0.45	0.03	0.44	0
127.83	-0.08	0.43	-0.07	0.44	0
133.16	-0.41	0.29	-0.38	0.31	0
140.16	0.8	0.67	0.05	0.39	0
141.45	-1.12	0.16	-1.08	0.17	0
142.87	0.53	0.8	0.46	0.75	0
143.73	-0.94	0.18	-1.07	0.1	0
143.09	-1.18	0.15	-0.91	0.21	0
145.77	-1.77	-0.07	-1.74	-0.06	0
148.46	-2.62	-0.32	-2.76	-0.36	0
149.18	-3.67	-0.31	-3.62	-0.24	0
149.3	-1.53	0.01	-1.59	0.12	0
151.44	1.23	1.68	1.21	1.58	0
149.74	5.3	5.21	5.32	5.4	0
152.51	5.51	6	5.39	6.26	0
152.59	3.14	4.23	3.75	4.96	0
154.63	6.15	5.79	6.19	5.86	0
160.03	14.16	13.2	12.04	11.62	0
164.18	16.02	15.04	15.17	14.6	0
165.43	15.7	15.57	16.54	16.22	0
161.69	14.45	14.67	14.94	15.07	0
157.6	6.9	8.01	9.53	9.62	0
149.17	4.39	2.86	5.22	4.3	0
148.03	2.61	1.96	3.42	2.85	0
144.81	-0.23	-2.3	-0.2	-0.94	0
148.93	3.22	2.67	2.44	2.39	0
146.65	2.06	0.69	1.36	0.15	0
144.43	1.07	-0.69	-0.62	-0.23	0
141.49	0.53	-1.51	0.3	-0.99	0
137.31	-5.68	-5.23	-5.88	-4.92	0
138.47	-6.72	-7.25	-7.54	-8.54	0

168	132	132	132	132	132
T(f)	PIL	PIL	PIL	PIL	PIL
R	1,1, L	1,1, R	1,2, L	1,2, R	2,1, L
0	3.57	5.12	7.94	9.11	-0.06
0	5.27	8.18	5.93	7.58	0.23
0	2.39	3.05	2.04	2.34	1.18
0	0.99	1.45	0.87	1.22	0.8
0	0.19	0.5	-0.05	0.04	2.12
0	0.81	1.49	0.66	1.16	1.68
0	1.58	2.38	1.29	2.38	3.25
0	0.19	0.54	0.92	1.78	1.45
0	2.94	4.18	3.32	4.09	3.2
0	4.92	6.02	4.64	5.74	4.44
0	6.62	7.93	5.56	6.99	8.9
0	6.69	8.83	5.27	6.76	8.3
0	7.88	9.48	6.27	8.18	8.73
0	4.61	6.71	8.86	10.3	8.59
0	11.2	11.15	11.29	11.95	11.34
0	13.92	15.9	17.93	19.77	16.09
0	17.03	19.09	19.85	21.7	18.99
0	21.76	23.03	21.6	23.46	21.35
0	21.7	23.53	22.22	23.53	23.18
0	26.29	28	23.6	26.29	30.14
0	28.7	30.23	29.95	32.21	28.92
0	26.02	30.53	28.99	31.09	30.53
0	29.55	29.51	26.6	28.45	30.49
0	24.25	27.4	24.72	28.48	23.79
0	16.52	24.22	21.76	25.02	22.98
0	8.58	13.79	10.57	13.52	9.38
0	9.26	13.56	3.1	14.26	6.2
0	-4.15	7.83	-4.14	1.02	-5.88
0	9.28	18.75	4.22	17.84	14.2
0	34.32	32.14	35.51	35.45	29.75
0	43.42	48.62	48.17	46.43	40.03
0	48.17	51.03	47.75	46.73	38.9
0	46.5	49.07	42.14	41.46	39.09
0	45.99	47.11	38.36	36.74	43.33

<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>
<b>2,1, R</b>	<b>2,2, L</b>	<b>2,2, R</b>	<b>3,1, L</b>	<b>3,1, R</b>	<b>3,2, L</b>	
0.54	0.62	1.85	3.25	3.32	3.59	
0.08	4.97	6.33	2.53	2.46	4.93	
1.21	1.73	2.28	2.15	2.06	1.37	
1.05	0.62	0.82	0.87	0.79	0.86	
2.9	-1.54	-1.38	1.37	1.24	-1.46	
2.54	1.23	1.34	0.93	0.73	1.48	
4.12	1.21	2.01	1.7	2.13	1.3	
1.79	2.16	2.74	1.26	1.5	2.09	
4.43	0.84	3.13	2.84	3.46	3.22	
5.86	2.08	4.53	1.78	1.82	5.81	
10.33	2.09	4.05	7.02	6.75	4.18	
9.74	6.69	8.65	7.88	8.33	7.21	
9.91	9.53	10.5	9.49	9.4	8.47	
10.32	6.82	10.21	11.24	10.96	8.01	
13.46	10.82	12.29	13.08	14.14	9.45	
17.04	13.41	15.02	15.69	15.02	14.7	
18.86	17.01	19.26	20.93	21.4	17.6	
23.72	22.91	23.92	22.54	22.31	20.29	
25.25	21.19	23.48	22.09	22.3	21.93	
28.58	26.47	28.37	26.85	26.66	27.1	
30.32	27.42	31.53	26.59	29.68	26.82	
31.31	31.64	34.52	30.96	33.04	33.6	
28.09	31.54	30.66	29.31	28.45	28.9	
25.84	23.74	25.89	20.64	25.42	24.54	
27.38	17.05	22.81	17.66	26.51	19.43	
13.45	8.64	10.23	6.39	9.81	15.45	
10.07	13.34	12.32	12.35	9.7	4.19	
1.54	-4.66	4.58	10.73	5.28	-6.28	
20.33	5.72	20.92	18.95	20.46	11.21	
35.42	24.65	29.43	28.71	32.9	38.36	
43.96	34.4	44.8	42.97	39.9	49.59	
46.03	41.9	49.06	45.81	46.78	48.01	
48.58	44.48	48.02	45.51	48.56	45.7	
42.45	42.44	43.51	42.66	39.61	41.43	

<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>
<b>3,2, R</b>	<b>4,1, L</b>	<b>4,1, R</b>	<b>4,2, L</b>	<b>4,2, R</b>	<b>5,1, L</b>	
4.76	1.12	0.49	4.24	4.76	-0.08	
4.87	7.38	7.93	4.41	5.01	9.22	
1.61	3.29	3.38	3.4	3.88	4.1	
0.82	0.75	0.84	0.92	1.19	1.75	
-1.56	1.04	1.18	0.72	1.14	-0.11	
1.3	1.58	1.46	1.67	2.23	0.39	
1.4	1.51	1.94	1.75	2.05	1.92	
1.89	2.18	2.49	1.18	1.64	0.66	
3.61	3.56	4.39	4.06	5.07	3.8	
5.54	5.36	5.77	5.84	6.55	2.51	
5.05	4.6	6.07	5.4	6.18	5.15	
7.92	9.38	10.6	7.38	8.43	7.37	
8.51	10.63	11.27	9.6	9.91	10.36	
10.97	11.11	11.75	10.14	11.72	9.57	
10.04	14.69	15.13	12.26	12.85	14.22	
13.83	16.45	16.48	16.4	16.71	17.55	
17.79	19.94	21.13	21.44	20.8	20.22	
20.43	22.74	23.64	22.27	24.22	23.43	
21.6	21.82	22.12	23.81	24.29	23.19	
26.51	27.15	29.08	26.34	27.81	25.59	
28.32	27.94	30.79	30.83	31.96	25.93	
33.14	31.7	34.01	34.62	34.6	28.1	
28.07	28.89	28.66	28.11	31.01	32.35	
25.92	21.94	27.39	23.04	25.87	21.58	
23.55	13.87	23.21	17.12	31.25	17.19	
13.12	6.38	8.29	9.67	18.42	9.49	
4.08	10.37	7.69	10.15	11.22	16.2	
-0.91	-3.53	-3.91	-3.85	5.4	6.48	
14.01	7.9	17.56	12.75	19.74	15.19	
40.53	36.8	35.98	33.84	30.91	26.25	
44.81	50.5	48.16	47.24	44.54	42.48	
37.82	45.36	42.18	44.79	45.16	42.24	
41.4	43.15	43.79	41.12	38.88	42.15	
42.17	41.7	43.95	42.49	37.73	46.03	

132	132	132	150	150	150
PIL	PIL	PIL	PIL	PIL	PIL
5,1, R	5,2, L	5,2, R	1,1, L	1,1, R	1,2, L
-0.12	6.08	2.06	-1.96	0.59	-3.58
7.75	4.16	1.99	-0.52	1.52	-1.51
3.84	2.89	1.58	3.06	3.91	2.58
1.76	1.18	0.72	2.05	2.85	1.98
-0.36	1.92	1.47	2.34	3.34	3.59
0.41	0.91	1.04	4.67	6.17	5.43
2.34	3.19	3.66	4.98	6.84	5.37
0.89	2.49	2.82	3.64	5.23	3.19
4	3.17	2.98	9.44	12.21	7.49
2.18	4.98	4.42	10.99	12.2	9.77
4.58	7.71	7.11	10.31	12.27	12.62
7.68	4.3	4.31	15.11	15.71	14.13
9.82	8.62	8.3	16.33	16.34	17.02
9.56	9.42	9.5	18.41	18.03	19.19
13.08	14.39	15	22.71	21.33	21.79
17.66	16.88	16.97	23.89	26.09	20.15
19.44	20.09	19.25	24.55	25.05	24.15
22.7	22.47	21.98	25.75	27.31	30
23.01	23.57	22.67	27.86	30.99	28.98
26.54	24.08	24.47	32.67	29.69	28.92
26.3	28.66	25.7	38.84	38.03	33.83
29.68	31.71	32.32	38.52	39.91	36.28
31.48	31.41	28.77	35.75	30.69	34.69
25.97	23.69	26.78	25.01	29.42	22.3
20.88	19.72	27.72	18.69	21.82	20.09
13.85	6.83	11.11	9.3	11.12	7.5
13.31	14.28	17.98	9.3	15.72	13.26
0.63	3.75	4.07	-4.09	11.05	0.05
18.17	4.28	12.09	13.38	21.73	4.9
23.58	37.23	39.09	22.02	23.65	20.86
38.6	47.15	47.63	37.22	38.99	35.4
39.28	40.97	40.47	35.72	37.88	32.34
42.23	45.66	50.53	33.36	39.07	35.91
45.1	49.2	49.8	37.04	36.32	40.22

150	150	150	150	150	150	150
PIL	PIL	PIL	PIL	PIL	PIL	PIL
1,2, R	2,1, L	2,1, R	2,2, L	2,2, R	3,1, L	
-2.26	1.31	3.68	-3.1	-0.36	-6.1	
-1	0.22	2.79	-0.57	0.75	-3.01	
3.27	1.67	3.13	0.97	2.15	-0.18	
2.53	2.07	3.35	2.41	3.13	1.64	
4.29	3.11	4.63	-0.64	0.52	2.11	
6.03	4.45	6.36	4.74	5.81	4.3	
6.54	4.68	6.65	4.27	5.79	4.9	
4.19	4.33	6.17	3.74	4.4	4.49	
9.63	8.48	11.16	9.37	11.59	8.77	
10.78	9.71	11.24	9.76	11.33	10.03	
13.72	13.26	14.29	11.27	13.5	12.99	
15.24	15.64	16.92	14.49	16.62	14.44	
17.31	16.75	17.05	16.65	17.87	16.3	
19.6	17.77	18.92	17.91	18.37	18.49	
22.98	20.26	21.58	20.69	23.71	22.58	
20.09	25.36	25.72	20.62	21.9	23.44	
25.59	21.47	23.55	24.07	25.26	25.25	
30.61	22.96	22.96	27.74	28.73	28.12	
32.07	28.28	30.2	28.64	31.37	25.07	
29.6	33.21	35.45	33.35	33.89	33.41	
35.38	36.19	39.37	37.81	38.26	33.77	
36.44	38.79	40.5	40.15	40.31	36.63	
34.53	34.46	33.54	30.6	37.31	31.46	
27.94	28.23	30.59	20.66	23.61	23.12	
22.04	27.05	26.46	20.67	21.72	18.41	
19.81	19	17.06	9.79	9.35	11.97	
17.75	11.48	14.63	10.18	12.46	11.89	
6.68	1.96	6.06	0.37	5.83	9.46	
14.91	15.46	21.45	7.44	16.84	19.51	
27.19	27.22	27.55	21.54	28.43	29.42	
37.61	33.75	42.47	38.31	35.46	38.97	
50.39	34.83	39.99	21.8	34.34	36.06	
43.02	36.76	39.27	29.98	40.83	38.98	
37.15	38.26	37.16	37.21	37.46	35.23	

150	150	150	150	150	150	150
PIL	PIL	PIL	PIL	PIL	PIL	PIL
3,1, R	3,2, L	3,2, R	4,1, L	4,1, R	4,2, L	
-4.15	-3.39	-2.71	-0.87	-3.52	-2.81	
-1.63	-2.81	-3.3	-0.8	-2.69	0.36	
0.76	0.86	0.54	2.13	1.13	2.91	
1.8	2.38	2.28	1.74	1.55	2.24	
2.21	1.56	1.03	4.09	3.56	4.8	
4.4	6.16	5.68	5.64	5.6	6.15	
5.45	5.1	5.12	5.97	6.25	5.47	
4.46	4.25	4.38	5.13	5.12	4.52	
9.97	8.91	10.31	10.01	10.85	10.96	
9.98	10.59	10.35	11.42	11.3	11.77	
13.48	15.14	14.39	14.87	14.9	12.39	
14.23	14.44	14.15	14.63	14.9	15.57	
15.31	16.99	14.99	16.97	16.91	17.88	
17.5	19.82	16.73	18.67	18.97	18.6	
21.07	19.4	22.48	21.18	22.61	17.77	
25.18	22.58	23.88	24.3	24.17	22.04	
25.56	25.81	26.51	29.01	27.16	24.03	
28.77	24.26	24.81	25.98	26.73	28.76	
25.02	26.63	27.93	26.7	27.92	30.48	
35.16	33.21	32.57	33.17	33.3	32.14	
34.57	27.53	29.21	36.95	39.55	36.46	
38.27	34.77	35.86	38.42	38.21	39.39	
34.22	36.99	31.76	35.01	34.22	36.53	
32.84	24.12	32.79	26.06	31.27	23.53	
24.07	17.56	25.62	20.7	22.33	22.59	
15.06	14.71	15.18	9.71	13.97	11.06	
4.69	11.05	2.4	2.08	14.8	7.51	
-4.9	9.86	-1.25	0.98	11.38	-1.54	
9.98	18.3	18.83	19.93	23.73	13.06	
22.95	30.69	16.39	21.81	29.26	23.1	
27.94	37.71	28	36.33	36.01	37.96	
29.72	40.82	33.82	40.46	36.66	40.75	
40.65	38.78	39.06	35.16	38.24	36.02	
30.79	34.82	33.73	37.44	36.25	38.56	

<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>168</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>
<b>4,2, R</b>	<b>5,1, L</b>	<b>5,1, R</b>	<b>5,2, L</b>	<b>5,2, R</b>	<b>1,1, L</b>	
2.84	-2.06	-1.88	-2.77	0.79	-9.08	
2.2	-1.46	-1.08	-1.69	0.13	-9	
3.7	1.84	2.36	1.59	2.63	-2.1	
2.54	1.94	2.31	1.31	1.78	2.57	
5.2	-0.3	0.37	2.99	3.23	6.14	
6.34	5.19	5.74	4.46	5.18	7.84	
6.62	5.66	6.08	5.11	6.01	9.83	
4.58	3.03	4.04	3.99	4.34	10.23	
11.62	8.98	9.48	9.02	10.31	13.47	
11.98	9.4	10.72	10.27	10.23	20.6	
12.79	11.08	12.53	12.5	12.6	25.83	
16.2	12.89	14.67	13.79	14.29	28.33	
17.67	13.13	15.6	16.37	15.31	26.67	
19.25	12.89	16.89	18.39	17.43	28.51	
19.24	18.68	20.44	20.73	20.53	30.23	
22.25	23.84	23.8	22.6	22.57	31.56	
23.83	28.66	29.24	24.23	24.95	37.58	
29.29	27.67	27.85	29.33	29.46	38.44	
29.76	26.36	27.68	27.65	29.08	35.8	
32.57	36.3	34.78	31.84	34.17	38.78	
37.26	38.03	37.87	37.13	36.42	42.97	
38.93	38.79	39.09	36.03	37.94	46.08	
37.41	36.64	35.65	33.43	31.82	44.41	
31.39	24.6	27.16	26.66	28.29	45.45	
24.12	19.37	21.65	22.96	27.32	46	
12.1	13.59	11.07	12.96	14.86	37.16	
11.26	16	16.05	18.65	15.08	28.04	
9.44	8.94	9.19	8.22	6.35	16.81	
18.44	15.87	18.12	13.72	17.31	30.1	
28.76	17.4	16.61	24.96	20.6	39.85	
41.3	30	28.78	34.85	28.81	43.57	
37.98	27.22	28.98	38.71	33.2	38.26	
41.42	28.82	30.89	35.89	36.03	36.34	
32.08	36.82	35.58	37.92	38.38	42.68	

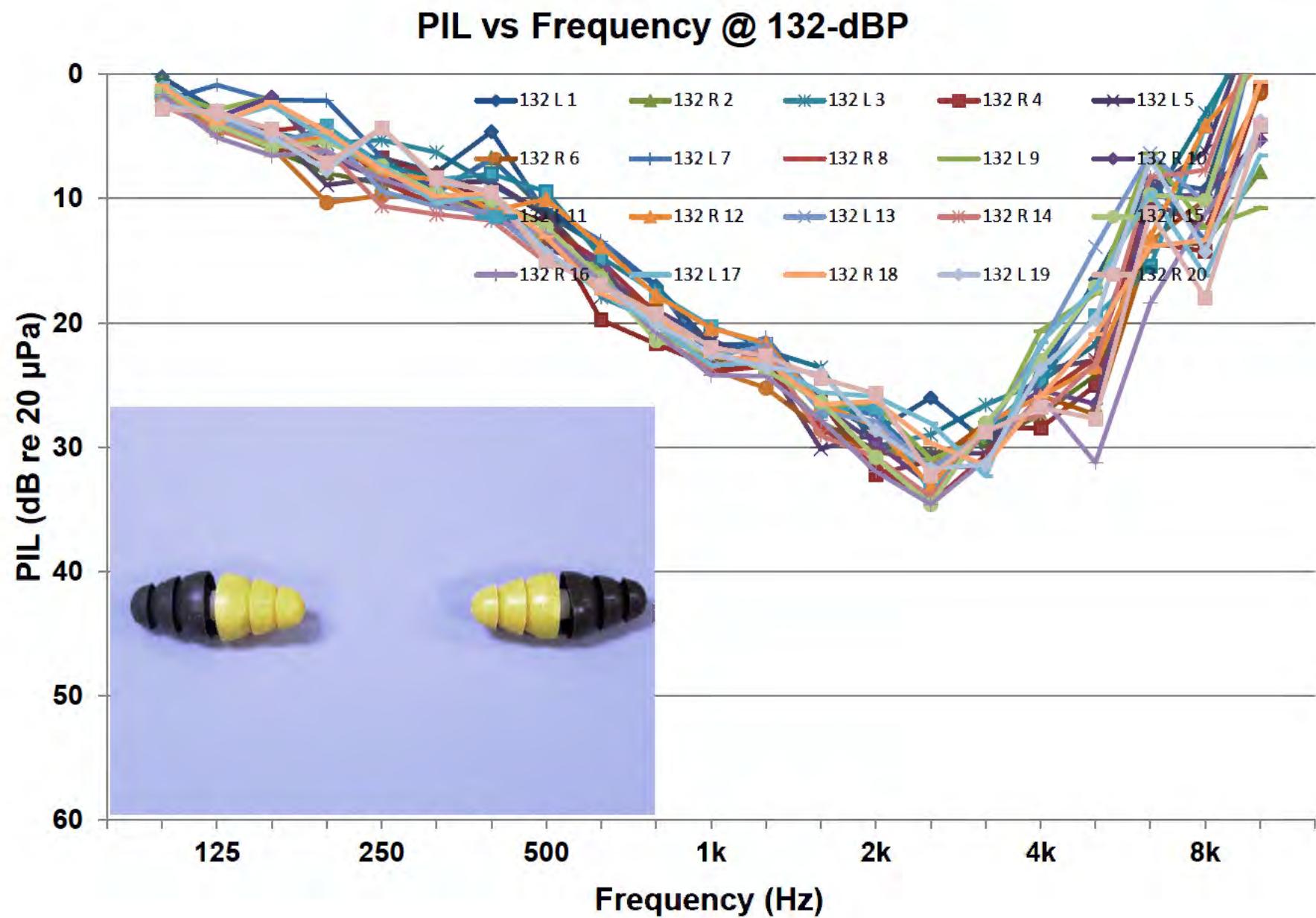
<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>
<b>1,1, R</b>	<b>1,2, L</b>	<b>1,2, R</b>	<b>2,1, L</b>	<b>2,1, R</b>	<b>2,2, L</b>	
-8.41	-9.48	-7.47	-8.67	-8.39	-9.72	
-7.22	-8.38	-5.93	-10.08	-8.23	-10.58	
-0.44	-3.1	-0.44	-1.21	0.32	-1.75	
4.09	2.36	3.94	2.96	4.52	2.69	
7.71	6.01	8.16	6.31	7.95	5.87	
9.38	7.87	9.2	8.07	9.14	7.91	
11.17	9.44	10.77	9.42	10.52	9.82	
11.1	10.78	11.62	10.83	12.14	10.89	
16.49	13.28	15.45	13.72	15.77	13.71	
20.36	20.87	20.66	19.52	20.32	20.61	
24.13	24.16	23.28	21.58	21.78	23.96	
25.26	26.79	24.82	26.5	25.27	26.18	
23.76	26.34	23.7	25.98	24.63	25.79	
26.33	28.33	26.63	27.54	26.93	26.42	
29.05	32.02	29.8	29.86	30.54	27.89	
31.35	31.58	31.24	30.09	29.83	30	
39.37	36.26	37.47	36.77	36.66	36.79	
40.22	39.28	40.2	38.38	40.45	37.67	
37.17	36.09	38.19	35.54	37.18	36.05	
37.47	39.4	38.09	39.06	37.96	40.57	
41.75	42.78	42.05	40.79	42.03	42.76	
46.42	43.85	44.85	47.38	45.97	46.98	
45.47	46.53	43.33	46.26	48.56	43.88	
45.17	43.14	43.16	48.88	46.91	47.37	
47.53	40.8	44.41	47.26	49.54	43.39	
40.91	38.37	38.85	39.09	41.62	36.7	
31.62	26.53	37.69	30.34	33.64	27.76	
25.14	17.68	20.39	22	24.39	23.31	
33.75	27.73	31.94	26.6	37.52	34.35	
41.8	39.39	41.2	39.2	42.66	40.55	
45.13	41.34	41.75	37.36	40.9	40.66	
36.19	39.75	40.09	31.96	46.04	42.78	
39.14	41.5	48.56	40.85	39.36	45.78	
46.25	35.38	40.43	35.84	38.13	35.08	

<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>
<b>2,2, R</b>	<b>3,1, L</b>	<b>3,1, R</b>	<b>3,2, L</b>	<b>3,2, R</b>	<b>4,1, L</b>	
-9.57	-8.26	-8.5	-9.01	-9.19	-10.69	
-9.04	-6.61	-6.09	-10.18	-9.13	-7.67	
-0.91	-2.14	-1.99	-2.11	-1.94	-1.04	
3.64	2.81	2.74	2.98	2.75	3.61	
7.05	5.9	6	5.34	5.67	6.86	
9.03	7.65	7.84	7.04	6.86	7.63	
11.16	9.6	9.61	9.33	9.09	10.69	
12.08	10.59	10.18	12.17	11.49	10.2	
16.36	13.2	14.04	13.61	14.41	14.52	
21.69	20.43	19.38	20.28	19.1	21.43	
22.19	24.17	22.72	24.89	21.93	24.69	
24.85	28.23	25.73	26.23	23.62	28.23	
24.21	27.44	23.42	27.12	23.07	27.58	
25.78	29.88	26.25	29.71	26.05	28.78	
29.76	30.59	28.96	29.81	27.76	32.4	
28.7	31.47	31.21	31.83	31.29	32.68	
37.02	38.16	37.8	39.09	38.81	38.12	
41.6	39.11	38.15	39.61	37.6	40.5	
37.75	36.91	37.51	36.24	36.68	37.44	
36.72	40.31	40.34	39.25	40.18	40.08	
42.62	42.65	38.92	40.92	41.52	41.74	
47.56	46.38	47.02	47.19	46.34	45.47	
45.43	49.13	43.54	50.15	38.33	50.89	
45.57	44.52	48.85	46.48	47.11	44.94	
48.02	42.35	49.18	44.37	44.32	42.16	
37.16	38.56	31.31	38.29	34.08	35.45	
28.97	35.39	31.7	32.29	23.47	26.23	
22.57	23.59	21.61	21.58	21.19	19.34	
31.79	28.75	33.55	27.96	35.25	32.23	
43.21	40.23	46.13	38.58	42.19	47.27	
41.83	40.36	47.19	40.1	46.75	49.92	
42.08	39.79	40.93	39.15	40.95	41.84	
33.79	48.25	38.94	46.89	35	51.29	
37.99	36.69	34.34	33.45	40.36	37.29	

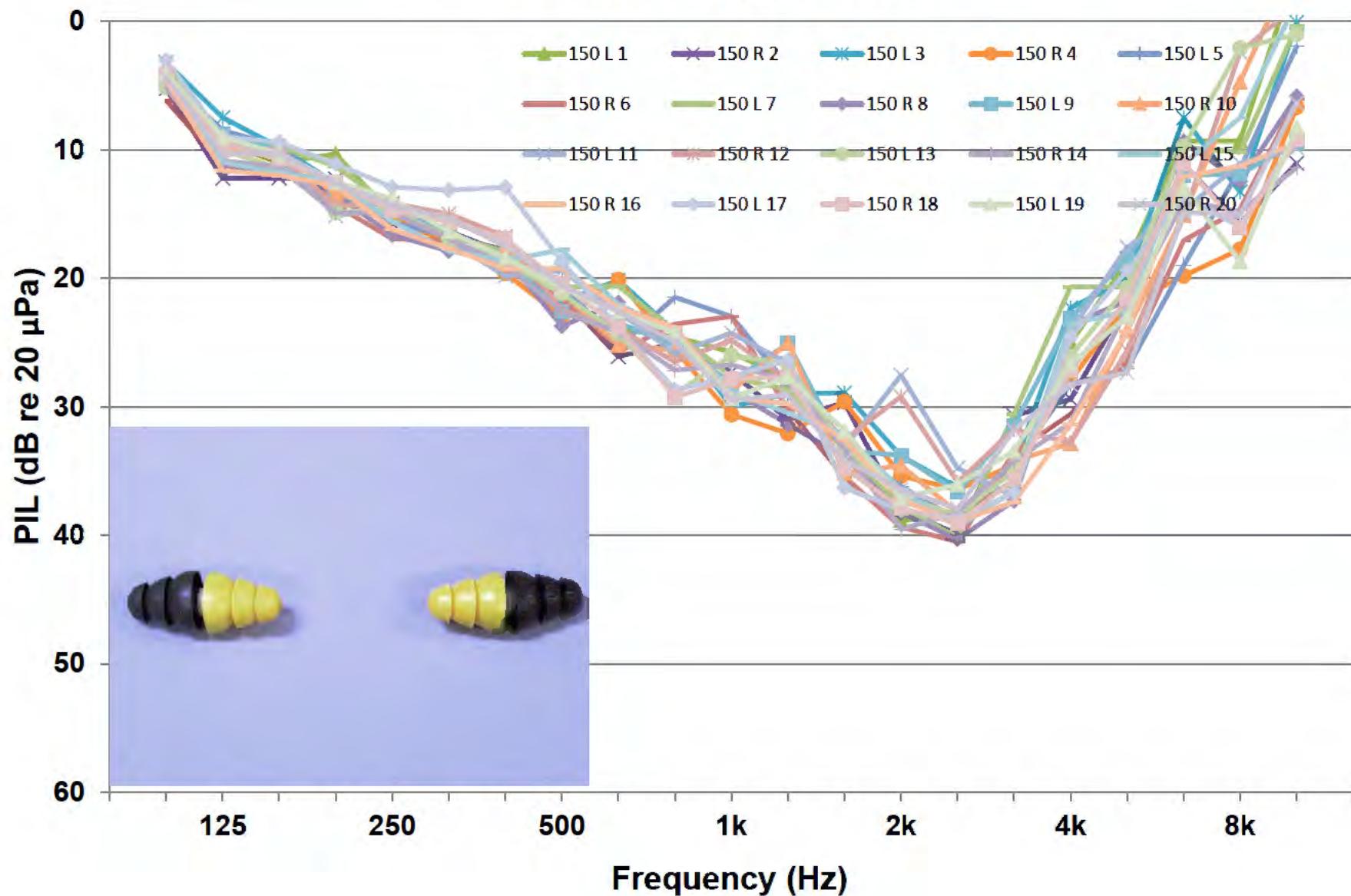
<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>
<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>	<b>PIL</b>
<b>4,1, R</b>	<b>4,2, L</b>	<b>4,2, R</b>	<b>5,1, L</b>	<b>5,1, R</b>	<b>5,2, L</b>	
-10.82	-9.29	-8.63	-8.9	-8.98	-7.78	
-7.57	-9.16	-8.32	-9.6	-9.91	-6.46	
-0.43	-1.13	0.01	-0.9	-0.49	-1.51	
4.35	3.92	4.45	3.88	4.17	3.37	
7.69	7.17	7.8	7.27	7.68	6.8	
8.19	7.62	8.46	7.69	7.83	8.41	
10.67	10.33	10.21	9.76	9.81	10.14	
10.81	11.41	11.82	11.39	11.35	11.29	
16.05	13.72	15.13	13.2	14.49	14.22	
19.62	21.21	19.78	20.83	19.35	20.76	
22.02	25.75	23.42	25.1	23.67	23.16	
23.72	26.97	23.18	26.35	24.16	27.94	
22.5	27.42	22.42	26.72	22.8	27.05	
24.03	28.73	24.4	28.75	25.56	28.45	
26.8	31.52	26.57	31.86	28.64	31.26	
32.99	31.99	32.63	30.93	31.76	29.6	
39.26	38.9	38.9	36.54	38.29	35.51	
38.14	39.02	38.73	39.67	38.39	39.3	
35.78	36.58	35.96	36.19	36.39	36.4	
40.04	39.6	39.61	37.46	40.78	37.17	
40.84	42.92	40.28	43.79	42.38	43.45	
45.55	46.08	45.96	45.26	45.18	47.85	
41.29	44.97	42.65	44.97	39.02	48.38	
41.72	44.95	41.59	45.71	43.74	45.32	
50.66	44.92	50.68	40	46.41	43.29	
40.87	36.91	39.87	37.32	39.81	37.57	
22.82	25.15	24.5	32.81	31.91	32.3	
26.9	17.66	22.74	19.51	21.7	23.37	
40.24	32.78	41.96	28.6	36.17	29.78	
40.7	46.89	43.39	37.8	39.45	40.37	
46.61	48.09	49.19	40.3	43.11	43.18	
42.18	40.22	44.17	39.27	35.79	38.46	
39.59	49.42	39.38	37.88	37.55	40.19	
44.36	45.63	45.48	44.99	41.96	42.95	

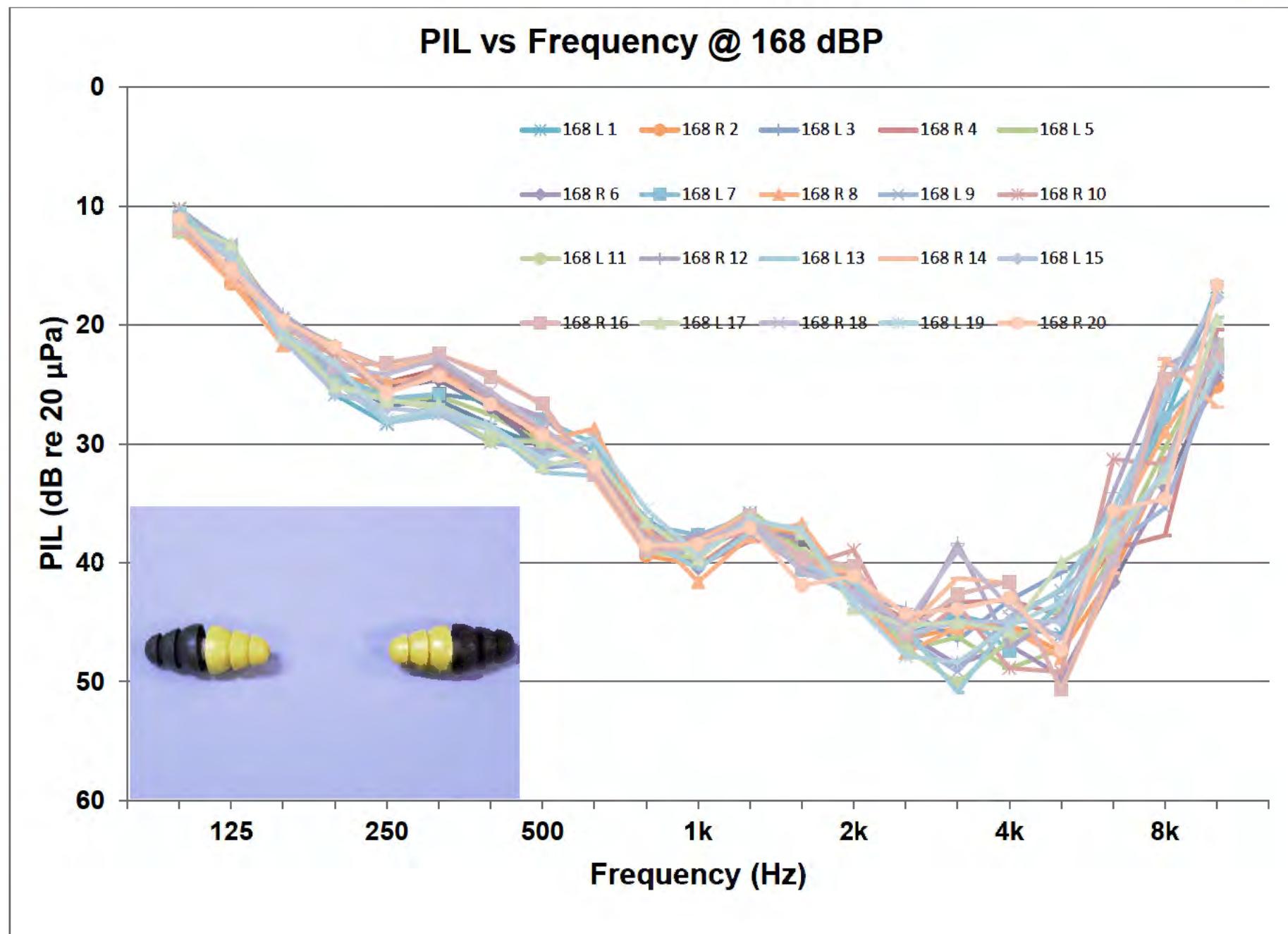
168			132	132	150	150	168
PIL			PIL	PIL	PIL	PIL	PIL
5,2, R			Avg	Std Dev	Avg	Std Dev	Avg
-8.4	20	20	3.1	2.7	-1.6	2.4	-9.0
-6.37	25	25	5.1	2.6	-0.7	1.7	-8.3
-1.78	31.5	31.5	2.5	0.9	2.1	1.1	-1.3
3.06	40	40	1.0	0.3	2.2	0.5	3.4
6.51	50	50	0.5	1.3	2.6	1.7	6.8
8.25	63	63	1.3	0.6	5.4	0.7	8.1
10.19	80						
11.07	100		1.6	0.7	4.4	0.7	11.2
15.26	125	125	3.5	0.9	9.9	1.2	14.5
19.62	160		4.5	1.6	10.7	0.8	20.3
21.83	200		6.1	1.9	13.0	1.3	23.5
25.68	250	250	7.6	1.6	14.9	1.0	25.9
24.24	315		9.2	1.1	16.4	1.1	25.1
26.66	400		9.5	1.8	18.1	1.5	27.2
29.25	500	500	12.6	1.7	21.1	1.5	29.7
31.88	630		16.2	1.6	23.2	1.7	31.2
38.53	800		19.6	1.4	25.4	1.9	37.8
38.43	1000	1k	22.5	1.1	27.4	2.2	39.1
37.05	1250		22.8	1.0	28.4	2.0	36.6
41.88	1600		26.8	1.6	33.0	1.9	39.2
41.13	2000	2k	28.9	2.0	36.1	3.1	41.9
44.3	2500		31.6	2.3	38.2	1.6	46.1
43.87	3150		29.5	1.5	34.3	2.2	45.1
42.95	4000	4k	24.8	2.1	27.0	3.6	45.2
47.35	5000		21.8	4.5	22.3	2.8	45.6
35.62	6300		10.8	3.2	13.0	3.3	37.8
34.61	8000	8k	10.7	4.1	11.8	4.7	29.9
16.66	10000		0.7	5.1	4.7	5.2	21.4
30.64	12500						
41.5	16000	16000	33.0	4.8	24.0	4.4	41.6
45.12	20000	20000	44.7	4.1	35.3	4.4	43.6
33.56	25000	25000	44.4	3.7	35.6	6.1	39.7
35.84	31500	31500	44.4	3.4	36.9	3.8	41.3
44.35	40000	40000	43.1	3.5	36.4	2.2	40.2

168					
PIL					
Std Dev					
0.8					
1.5					
0.9					
0.7					
0.9					
0.7					
	2.2	0.8	5.6	0.7	10.1
	0.6				0.6
	1.1				
	0.7				
	1.3				
	1.6				
	1.8				
	1.7				
	1.7				
	1.1				
	1.1				
	1.1				
	0.7				
	1.4				
	1.2				
	1.1				
	3.4				
	2.1				
	3.1				
	2.5				
	4.2				
	2.8				
	14.2	5.6	16.1	4.8	32.6
	2.7				4.1
	3.5				
	3.4				
	5.2				
	4.3				



## PIL vs Frequency @ 150-dB<sub>P</sub>





Level		132	132	132	132	132	132	132	132	132
Ear		L	R	L	R	L	R	L	R	
Test #		1	2	3	4	5	6	7	8	
100		0.19	0.54	0.92	1.78	1.45	1.79	2.16	2.74	
125	125	2.94	4.18	3.32	4.09	3.2	4.43	0.84	3.13	
160		4.92	6.02	4.64	5.74	4.44	5.86	2.08	4.53	
200		6.62	7.93	5.56	6.99	8.9	10.33	2.09	4.05	
250	250	6.69	8.83	5.27	6.76	8.3	9.74	6.69	8.65	
315		7.88	9.48	6.27	8.18	8.73	9.91	9.53	10.5	
400		4.61	6.71	8.86	10.3	8.59	10.32	6.82	10.21	
500	500	11.2	11.15	11.29	11.95	11.34	13.46	10.82	12.29	
630		13.92	15.9	17.93	19.77	16.09	17.04	13.41	15.02	
800		17.03	19.09	19.85	21.7	18.99	18.86	17.01	19.26	
1000	1k	21.76	23.03	21.6	23.46	21.35	23.72	22.91	23.92	
1250		21.7	23.53	22.22	23.53	23.18	25.25	21.19	23.48	
1600		26.29	28	23.6	26.29	30.14	28.58	26.47	28.37	
2000	2k	28.7	30.23	29.95	32.21	28.92	30.32	27.42	31.53	
2500		26.02	30.53	28.99	31.09	30.53	31.31	31.64	34.52	
3150		29.55	29.51	26.6	28.45	30.49	28.09	31.54	30.66	
4000	4k	24.25	27.4	24.72	28.48	23.79	25.84	23.74	25.89	
5000		16.52	24.22	21.76	25.02	22.98	27.38	17.05	22.81	
6300		8.58	13.79	10.57	13.52	9.38	13.45	8.64	10.23	
8000	8k	9.26	13.56	3.1	14.26	6.2	10.07	13.34	12.32	
10000		-4.15	7.83	-4.14	1.02	-5.88	1.54	-4.66	4.58	
12500		9.28	18.75	4.22	17.84	14.2	20.33	5.72	20.92	
16000		34.32	32.14	35.51	35.45	29.75	35.42	24.65	29.43	
20000		43.42	48.62	48.17	46.43	40.03	43.96	34.4	44.8	
25000		48.17	51.03	47.75	46.73	38.9	46.03	41.9	49.06	
31500		46.5	49.07	42.14	41.46	39.09	48.58	44.48	48.02	
40000		45.99	47.11	38.36	36.74	43.33	42.45	42.44	43.51	

132		132		132		132		132		132		132	
L	R	L	R	L	R	L	R	L	R	L	R	L	R
9	10	11	12	13	14	15	16	17	18				
1.26	1.5	2.09	1.89	2.18	2.49	1.18	1.64	0.66	0.89				
2.84	3.46	3.22	3.61	3.56	4.39	4.06	5.07	3.8	4				
1.78	1.82	5.81	5.54	5.36	5.77	5.84	6.55	2.51	2.18				
7.02	6.75	4.18	5.05	4.6	6.07	5.4	6.18	5.15	4.58				
7.88	8.33	7.21	7.92	9.38	10.6	7.38	8.43	7.37	7.68				
9.49	9.4	8.47	8.51	10.63	11.27	9.6	9.91	10.36	9.82				
11.24	10.96	8.01	10.97	11.11	11.75	10.14	11.72	9.57	9.56				
13.08	14.14	9.45	10.04	14.69	15.13	12.26	12.85	14.22	13.08				
15.69	15.02	14.7	13.83	16.45	16.48	16.4	16.71	17.55	17.66				
20.93	21.4	17.6	17.79	19.94	21.13	21.44	20.8	20.22	19.44				
22.54	22.31	20.29	20.43	22.74	23.64	22.27	24.22	23.43	22.7				
22.09	22.3	21.93	21.6	21.82	22.12	23.81	24.29	23.19	23.01				
26.85	26.66	27.1	26.51	27.15	29.08	26.34	27.81	25.59	26.54				
26.59	29.68	26.82	28.32	27.94	30.79	30.83	31.96	25.93	26.3				
30.96	33.04	33.6	33.14	31.7	34.01	34.62	34.6	28.1	29.68				
29.31	28.45	28.9	28.07	28.89	28.66	28.11	31.01	32.35	31.48				
20.64	25.42	24.54	25.92	21.94	27.39	23.04	25.87	21.58	25.97				
17.66	26.51	19.43	23.55	13.87	23.21	17.12	31.25	17.19	20.88				
6.39	9.81	15.45	13.12	6.38	8.29	9.67	18.42	9.49	13.85				
12.35	9.7	4.19	4.08	10.37	7.69	10.15	11.22	16.2	13.31				
10.73	5.28	-6.28	-0.91	-3.53	-3.91	-3.85	5.4	6.48	0.63				
18.95	20.46	11.21	14.01	7.9	17.56	12.75	19.74	15.19	18.17				
28.71	32.9	38.36	40.53	36.8	35.98	33.84	30.91	26.25	23.58				
42.97	39.9	49.59	44.81	50.5	48.16	47.24	44.54	42.48	38.6				
45.81	46.78	48.01	37.82	45.36	42.18	44.79	45.16	42.24	39.28				
45.51	48.56	45.7	41.4	43.15	43.79	41.12	38.88	42.15	42.23				
42.66	39.61	41.43	42.17	41.7	43.95	42.49	37.73	46.03	45.1				

132	132	150	150	150	150	150	150	150	150	150	150
L	R	L	R	L	R	L	R	L	R	L	R
19	20	1	2	3	4	5	6	7	8		
2.49	2.82	3.64	5.23	3.19	4.19	4.33	6.17	3.74	4.4		
3.17	2.98	9.44	12.21	7.49	9.63	8.48	11.16	9.37	11.59		
4.98	4.42	10.99	12.2	9.77	10.78	9.71	11.24	9.76	11.33		
7.71	7.11	10.31	12.27	12.62	13.72	13.26	14.29	11.27	13.5		
4.3	4.31	15.11	15.71	14.13	15.24	15.64	16.92	14.49	16.62		
8.62	8.3	16.33	16.34	17.02	17.31	16.75	17.05	16.65	17.87		
9.42	9.5	18.41	18.03	19.19	19.6	17.77	18.92	17.91	18.37		
14.39	15	22.71	21.33	21.79	22.98	20.26	21.58	20.69	23.71		
16.88	16.97	23.89	26.09	20.15	20.09	25.36	25.72	20.62	21.9		
20.09	19.25	24.55	25.05	24.15	25.59	21.47	23.55	24.07	25.26		
22.47	21.98	25.75	27.31	30	30.61	22.96	22.96	27.74	28.73		
23.57	22.67	27.86	30.99	28.98	32.07	28.28	30.2	28.64	31.37		
24.08	24.47	32.67	29.69	28.92	29.6	33.21	35.45	33.35	33.89		
28.66	25.7	38.84	38.03	33.83	35.38	36.19	39.37	37.81	38.26		
31.71	32.32	38.52	39.91	36.28	36.44	38.79	40.5	40.15	40.31		
31.41	28.77	35.75	30.69	34.69	34.53	34.46	33.54	30.6	37.31		
23.69	26.78	25.01	29.42	22.3	27.94	28.23	30.59	20.66	23.61		
19.72	27.72	18.69	21.82	20.09	22.04	27.05	26.46	20.67	21.72		
6.83	11.11	9.3	11.12	7.5	19.81	19	17.06	9.79	9.35		
14.28	17.98	9.3	15.72	13.26	17.75	11.48	14.63	10.18	12.46		
3.75	4.07	-4.09	11.05	0.05	6.68	1.96	6.06	0.37	5.83		
4.28	12.09	13.38	21.73	4.9	14.91	15.46	21.45	7.44	16.84		
37.23	39.09	22.02	23.65	20.86	27.19	27.22	27.55	21.54	28.43		
47.15	47.63	37.22	38.99	35.4	37.61	33.75	42.47	38.31	35.46		
40.97	40.47	35.72	37.88	32.34	50.39	34.83	39.99	21.8	34.34		
45.66	50.53	33.36	39.07	35.91	43.02	36.76	39.27	29.98	40.83		
49.2	49.8	37.04	36.32	40.22	37.15	38.26	37.16	37.21	37.46		

150	150	150	150	150	150	150	150	150	150	150	150
L	R	L	R	L	R	L	R	L	R	L	R
9	10	11	12	13	14	15	16	17	18		
4.49	4.46	4.25	4.38	5.13	5.12	4.52	4.58	3.03	4.04		
8.77	9.97	8.91	10.31	10.01	10.85	10.96	11.62	8.98	9.48		
10.03	9.98	10.59	10.35	11.42	11.3	11.77	11.98	9.4	10.72		
12.99	13.48	15.14	14.39	14.87	14.9	12.39	12.79	11.08	12.53		
14.44	14.23	14.44	14.15	14.63	14.9	15.57	16.2	12.89	14.67		
16.3	15.31	16.99	14.99	16.97	16.91	17.88	17.67	13.13	15.6		
18.49	17.5	19.82	16.73	18.67	18.97	18.6	19.25	12.89	16.89		
22.58	21.07	19.4	22.48	21.18	22.61	17.77	19.24	18.68	20.44		
23.44	25.18	22.58	23.88	24.3	24.17	22.04	22.25	23.84	23.8		
25.25	25.56	25.81	26.51	29.01	27.16	24.03	23.83	28.66	29.24		
28.12	28.77	24.26	24.81	25.98	26.73	28.76	29.29	27.67	27.85		
25.07	25.02	26.63	27.93	26.7	27.92	30.48	29.76	26.36	27.68		
33.41	35.16	33.21	32.57	33.17	33.3	32.14	32.57	36.3	34.78		
33.77	34.57	27.53	29.21	36.95	39.55	36.46	37.26	38.03	37.87		
36.63	38.27	34.77	35.86	38.42	38.21	39.39	38.93	38.79	39.09		
31.46	34.22	36.99	31.76	35.01	34.22	36.53	37.41	36.64	35.65		
23.12	32.84	24.12	32.79	26.06	31.27	23.53	31.39	24.6	27.16		
18.41	24.07	17.56	25.62	20.7	22.33	22.59	24.12	19.37	21.65		
11.97	15.06	14.71	15.18	9.71	13.97	11.06	12.1	13.59	11.07		
11.89	4.69	11.05	2.4	2.08	14.8	7.51	11.26	16	16.05		
9.46	-4.9	9.86	-1.25	0.98	11.38	-1.54	9.44	8.94	9.19		
19.51	9.98	18.3	18.83	19.93	23.73	13.06	18.44	15.87	18.12		
29.42	22.95	30.69	16.39	21.81	29.26	23.1	28.76	17.4	16.61		
38.97	27.94	37.71	28	36.33	36.01	37.96	41.3	30	28.78		
36.06	29.72	40.82	33.82	40.46	36.66	40.75	37.98	27.22	28.98		
38.98	40.65	38.78	39.06	35.16	38.24	36.02	41.42	28.82	30.89		
35.23	30.79	34.82	33.73	37.44	36.25	38.56	32.08	36.82	35.58		

150	150	168	168	168	168	168	168	168	168	168	168
L	R	L	R	L	R	L	R	L	R	L	R
19	20	1	2	3	4	5	6	7	8		
3.99	4.34	10.23	11.1	10.78	11.62	10.83	12.14	10.89	12.08		
9.02	10.31	13.47	16.49	13.28	15.45	13.72	15.77	13.71	16.36		
10.27	10.23	20.6	20.36	20.87	20.66	19.52	20.32	20.61	21.69		
12.5	12.6	25.83	24.13	24.16	23.28	21.58	21.78	23.96	22.19		
13.79	14.29	28.33	25.26	26.79	24.82	26.5	25.27	26.18	24.85		
16.37	15.31	26.67	23.76	26.34	23.7	25.98	24.63	25.79	24.21		
18.39	17.43	28.51	26.33	28.33	26.63	27.54	26.93	26.42	25.78		
20.73	20.53	30.23	29.05	32.02	29.8	29.86	30.54	27.89	29.76		
22.6	22.57	31.56	31.35	31.58	31.24	30.09	29.83	30	28.7		
24.23	24.95	37.58	39.37	36.26	37.47	36.77	36.66	36.79	37.02		
29.33	29.46	38.44	40.22	39.28	40.2	38.38	40.45	37.67	41.6		
27.65	29.08	35.8	37.17	36.09	38.19	35.54	37.18	36.05	37.75		
31.84	34.17	38.78	37.47	39.4	38.09	39.06	37.96	40.57	36.72		
37.13	36.42	42.97	41.75	42.78	42.05	40.79	42.03	42.76	42.62		
36.03	37.94	46.08	46.42	43.85	44.85	47.38	45.97	46.98	47.56		
33.43	31.82	44.41	45.47	46.53	43.33	46.26	48.56	43.88	45.43		
26.66	28.29	45.45	45.17	43.14	43.16	48.88	46.91	47.37	45.57		
22.96	27.32	46	47.53	40.8	44.41	47.26	49.54	43.39	48.02		
12.96	14.86	37.16	40.91	38.37	38.85	39.09	41.62	36.7	37.16		
18.65	15.08	28.04	31.62	26.53	37.69	30.34	33.64	27.76	28.97		
8.22	6.35	16.81	25.14	17.68	20.39	22	24.39	23.31	22.57		
13.72	17.31	30.1	33.75	27.73	31.94	26.6	37.52	34.35	31.79		
24.96	20.6	39.85	41.8	39.39	41.2	39.2	42.66	40.55	43.21		
34.85	28.81	43.57	45.13	41.34	41.75	37.36	40.9	40.66	41.83		
38.71	33.2	38.26	36.19	39.75	40.09	31.96	46.04	42.78	42.08		
35.89	36.03	36.34	39.14	41.5	48.56	40.85	39.36	45.78	33.79		
37.92	38.38	42.68	46.25	35.38	40.43	35.84	38.13	35.08	37.99		

168		168		168		168		168		168		168		168	
L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R
9	10	11	12	13	14	15	16	17	18						
10.59	10.18	12.17	11.49	10.2	10.81	11.41	11.82	11.39	11.35						
13.2	14.04	13.61	14.41	14.52	16.05	13.72	15.13	13.2	14.49						
20.43	19.38	20.28	19.1	21.43	19.62	21.21	19.78	20.83	19.35						
24.17	22.72	24.89	21.93	24.69	22.02	25.75	23.42	25.1	23.67						
28.23	25.73	26.23	23.62	28.23	23.72	26.97	23.18	26.35	24.16						
27.44	23.42	27.12	23.07	27.58	22.5	27.42	22.42	26.72	22.8						
29.88	26.25	29.71	26.05	28.78	24.03	28.73	24.4	28.75	25.56						
30.59	28.96	29.81	27.76	32.4	26.8	31.52	26.57	31.86	28.64						
31.47	31.21	31.83	31.29	32.68	32.99	31.99	32.63	30.93	31.76						
38.16	37.8	39.09	38.81	38.12	39.26	38.9	38.9	36.54	38.29						
39.11	38.15	39.61	37.6	40.5	38.14	39.02	38.73	39.67	38.39						
36.91	37.51	36.24	36.68	37.44	35.78	36.58	35.96	36.19	36.39						
40.31	40.34	39.25	40.18	40.08	40.04	39.6	39.61	37.46	40.78						
42.65	38.92	40.92	41.52	41.74	40.84	42.92	40.28	43.79	42.38						
46.38	47.02	47.19	46.34	45.47	45.55	46.08	45.96	45.26	45.18						
49.13	43.54	50.15	38.33	50.89	41.29	44.97	42.65	44.97	39.02						
44.52	48.85	46.48	47.11	44.94	41.72	44.95	41.59	45.71	43.74						
42.35	49.18	44.37	44.32	42.16	50.66	44.92	50.68	40	46.41						
38.56	31.31	38.29	34.08	35.45	40.87	36.91	39.87	37.32	39.81						
35.39	31.7	32.29	23.47	26.23	22.82	25.15	24.5	32.81	31.91						
23.59	21.61	21.58	21.19	19.34	26.9	17.66	22.74	19.51	21.7						
28.75	33.55	27.96	35.25	32.23	40.24	32.78	41.96	28.6	36.17						
40.23	46.13	38.58	42.19	47.27	40.7	46.89	43.39	37.8	39.45						
40.36	47.19	40.1	46.75	49.92	46.61	48.09	49.19	40.3	43.11						
39.79	40.93	39.15	40.95	41.84	42.18	40.22	44.17	39.27	35.79						
48.25	38.94	46.89	35	51.29	39.59	49.42	39.38	37.88	37.55						
36.69	34.34	33.45	40.36	37.29	44.36	45.63	45.48	44.99	41.96						

168	168									
L	R									
19	20									
11.29	11.07	100		1.633	0.749773	4.361	0.711876	11.172	0.619028	
14.22	15.26	125	125	3.5145	0.862704	9.928	1.20407	14.505	1.080266	
20.76	19.62	160		4.5395	1.573325	10.691	0.814855	20.321	0.731803	
23.16	21.83	200		6.1135	1.868648	13.045	1.296727	23.513	1.347552	
27.94	25.68	250	250	7.586	1.638624	14.903	0.986931	25.902	1.575144	
27.05	24.24	315		9.243	1.145619	16.4375	1.133364	25.143	1.841276	
28.45	26.66	400		9.5185	1.842105	18.0915	1.479169	27.186	1.658536	
31.26	29.25	500	500	12.5915	1.680154	21.088	1.541416	29.7285	1.661332	
29.6	31.88	630		16.171	1.55383	23.2235	1.745738	31.2305	1.10093	
35.51	38.53	800		19.591	1.440376	25.3965	1.946166	37.7915	1.125163	
39.3	38.43	1000	1k	22.5385	1.082814	27.3545	2.249665	39.1445	1.058402	
36.4	37.05	1250		22.824	1.031659	28.4335	1.970624	36.645	0.729113	
37.17	41.88	1600		26.796	1.625544	32.97	1.906962	39.2375	1.378935	
43.45	41.13	2000	2k	28.94	2.039448	36.123	3.128746	41.9145	1.18381	
47.85	44.3	2500		31.6055	2.275384	38.1615	1.643137	46.0835	1.076741	
48.38	43.87	3150		29.515	1.505137	34.3355	2.173867	45.053	3.355947	
45.32	42.95	4000	4k	24.8445	2.052176	26.9795	3.611704	45.1765	2.072152	
43.29	47.35	5000		21.7925	4.505946	22.262	2.841446	45.632	3.145516	
37.57	35.62	6300		10.8485	3.20188	12.9585	3.298964	37.776	2.462883	
32.3	34.61	8000	8k	10.6815	4.061803	11.812	4.731524	29.8885	4.194541	
23.37	16.66	10000		0.7	5.101978	4.702	5.243917	21.407	2.804455	
29.78	30.64	12500		14.1785	5.555911	16.1455	4.761277	32.5845	4.146081	
40.37	41.5	16000	16000	33.0425	4.785688	24.0205	4.427484	41.618	2.668699	
43.18	45.12	20000	20000	44.67	4.099094	35.2935	4.411976	43.623	3.467528	
38.46	33.56	25000	25000	44.422	3.729925	35.5835	6.061463	39.673	3.393998	
40.19	35.84	31500	31500	44.401	3.403376	36.907	3.84189	41.277	5.213336	
42.95	44.35	40000	40000	43.09	3.487047	36.421	2.240265	40.1815	4.271299	

	Free Field Peak Level [dB]	Left Peak Level [dB]	Right Peak Level [dB]	A-Duration [ms]
Pcal,1,132	131.1	134.5	135	0.264
Pcal,2,132	131.1	136	136	0.352
Pcal,3,132	132.6	134.7	135.3	0.137
Pcal,4,132	132.2	136.3	137	0.37
Pcal,5,132	132.1	135.5	136.3	0.74
Pcal,6,132	133	137.6	137.2	0.59
Pcal,1,150	149.4	154.5	155.3	1.074
Pcal,2,150	149.5	154.3	155.1	1.13
Pcal,3,150	149.3	152.9	153.9	1.05
Pcal,4,150	149.3	153.6	154.3	1.201
Pcal,5,150	149.2	152.7	153.7	1.06
Pcal,6,150	149.4	154.1	155	1.16
Pcal,1,168	168.3	179.1	179.2	0.986
Pcal,2,168	169.1	179.1	179.2	1.05
Pcal,3,168	169.1	179.2	179.3	0.93
Pcal,4,168	169.1	179.3	179.3	0.166
Pcal,5,168	169.1	179.4	179.5	0.92
Pcal,6,168	168.3	178.6	178.7	0.93

B-Duration [ms]	C-Duration [ms]	D-Duration [ms]	A Duration Onset Level (% of Peak Level)
47.35	3.4	8.75	50.00%
49.46	2.71	10.56	
36.57	5.17	6.68	
35.83	3.59	7.71	
45.72	5.02	8.25	
38.59	0.94	8.62	
21.57	0.91	3.51	
21.78	0.97	3.58	
24.08	0.85	4.55	
21.93	0.96	4.16	
21.47	0.88	4.67	
18.74	0.85	3.08	
5.83	0.98	1.17	
5.83	0.66	1.13	
5.51	0.71	1.02	
6.04	0.66	1.08	
5.73	0.73	1.29	
5.95	0.85	1.15	

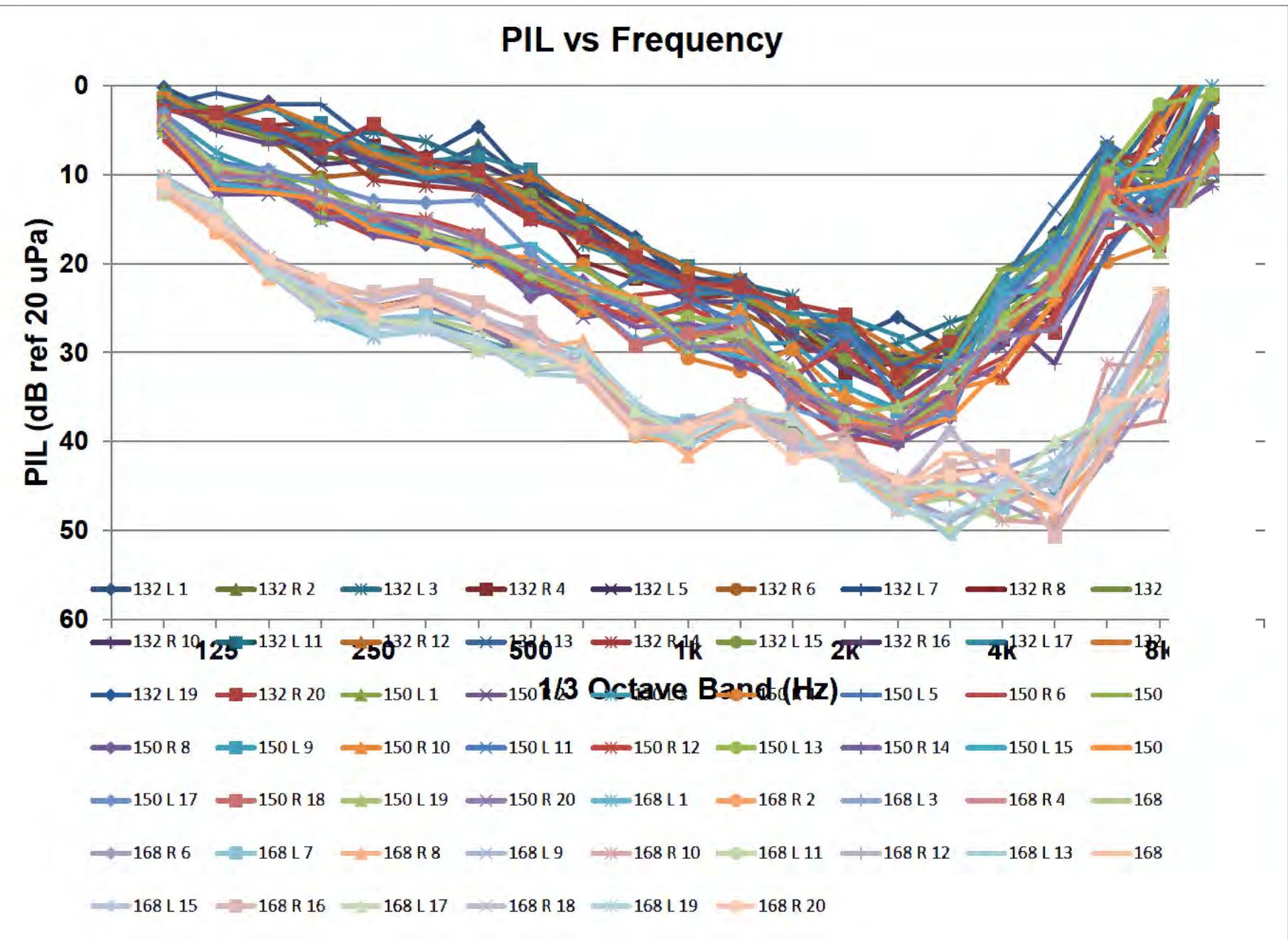
	Left Measured Pe	Left Estimated Pe	Right Measured P	Right Estimated Peak Level [dB]
PFF-cal,1,132	134.5	133.9	135	134.6
PFF-cal,2,132	136	134.3	136	135.6
PFF-cal,3,132	134.7	132.8	135.3	134.5
PFF-cal,4,132	136.3	134.9	137	136.1
PFF-cal,5,132	135.5	134.8	136.3	136
PFF-cal,6,132	137.6	135.9	137.2	136.4
PFF-cal,1,150	154.5	153.4	155.3	154.5
PFF-cal,2,150	154.3	153.8	155.1	154.7
PFF-cal,3,150	152.9	152.8	153.9	153.6
PFF-cal,4,150	153.6	152.9	154.3	154
PFF-cal,5,150	152.7	152.5	153.7	153.5
PFF-cal,6,150	154.1	153.8	155	154.7
PFF-cal,1,168	179.1	179	179.2	179.1
PFF-cal,2,168	179.1	179	179.2	179.2
PFF-cal,3,168	179.2	179.1	179.3	179.2
PFF-cal,4,168	179.3	179.1	179.3	179.2
PFF-cal,5,168	179.4	179.2	179.5	179.3
PFF-cal,6,168	178.6	178.6	178.7	178.8

	132 dB Left	132 dB Right	150 dB Left	150 dB Right	168 dB Left
Calibration 1	-0.6	-0.4	-1	-0.9	-0.1
Calibration 2	-1.6	-0.4	-0.5	-0.4	-0.1
Calibration 3	-1.8	-0.7	-0.1	-0.3	-0.1
Calibration 4	-1.4	-1	-0.7	-0.3	-0.2
Calibration 5	-0.7	-0.3	-0.2	-0.2	-0.2
Calibration 6	-1.7	-0.8	-0.3	-0.3	0.1

168 dB Right
-0.1
0
-0.1
-0.1
-0.2
0.1

132 dB Overall Average PIL	11.8
150 dB Overall Average PIL	20.3
168 dB Overall Average PIL	36.7





Level	132		132		132		132		132		132	
Ear	L	R	L	R	L	R	L	R	L	R	L	
Test #	1	2	3	4	5	6	7	8	9			
20	3.57	5.12	7.94	9.11	-0.06	0.54	0.62	1.85	3.25			
25	5.27	8.18	5.93	7.58	0.23	0.08	4.97	6.33	2.53			
31.5	2.39	3.05	2.04	2.34	1.18	1.21	1.73	2.28	2.15			
40	0.99	1.45	0.87	1.22	0.8	1.05	0.62	0.82	0.87			
50	0.19	0.5	-0.05	0.04	2.12	2.9	-1.54	-1.38	1.37			
63	0.81	1.49	0.66	1.16	1.68	2.54	1.23	1.34	0.93			
80	1.58	2.38	1.29	2.38	3.25	4.12	1.21	2.01	1.7			
100	0.19	0.54	0.92	1.78	1.45	1.79	2.16	2.74	1.26			
125	2.94	4.18	3.32	4.09	3.2	4.43	0.84	3.13	2.84			
160	4.92	6.02	4.64	5.74	4.44	5.86	2.08	4.53	1.78			
200	6.62	7.93	5.56	6.99	8.9	10.33	2.09	4.05	7.02			
250	6.69	8.83	5.27	6.76	8.3	9.74	6.69	8.65	7.88			
315	7.88	9.48	6.27	8.18	8.73	9.91	9.53	10.5	9.49			
400	4.61	6.71	8.86	10.3	8.59	10.32	6.82	10.21	11.24			
500	11.2	11.15	11.29	11.95	11.34	13.46	10.82	12.29	13.08			
630	13.92	15.9	17.93	19.77	16.09	17.04	13.41	15.02	15.69			
800	17.03	19.09	19.85	21.7	18.99	18.86	17.01	19.26	20.93			
1000	21.76	23.03	21.6	23.46	21.35	23.72	22.91	23.92	22.54			
1250	21.7	23.53	22.22	23.53	23.18	25.25	21.19	23.48	22.09			
1600	26.29	28	23.6	26.29	30.14	28.58	26.47	28.37	26.85			
2000	28.7	30.23	29.95	32.21	28.92	30.32	27.42	31.53	26.59			
2500	26.02	30.53	28.99	31.09	30.53	31.31	31.64	34.52	30.96			
3150	29.55	29.51	26.6	28.45	30.49	28.09	31.54	30.66	29.31			
4000	24.25	27.4	24.72	28.48	23.79	25.84	23.74	25.89	20.64			
5000	16.52	24.22	21.76	25.02	22.98	27.38	17.05	22.81	17.66			
6300	8.58	13.79	10.57	13.52	9.38	13.45	8.64	10.23	6.39			
8000	9.26	13.56	3.1	14.26	6.2	10.07	13.34	12.32	12.35			
10000	-4.15	7.83	-4.14	1.02	-5.88	1.54	-4.66	4.58	10.73			
12500	9.28	18.75	4.22	17.84	14.2	20.33	5.72	20.92	18.95			
16000	34.32	32.14	35.51	35.45	29.75	35.42	24.65	29.43	28.71			
20000	43.42	48.62	48.17	46.43	40.03	43.96	34.4	44.8	42.97			
25000	48.17	51.03	47.75	46.73	38.9	46.03	41.9	49.06	45.81			
31500	46.5	49.07	42.14	41.46	39.09	48.58	44.48	48.02	45.51			
40000	45.99	47.11	38.36	36.74	43.33	42.45	42.44	43.51	42.66			

132	132	132	132	132	132	132	132	132	132	132	132
R	L	R	L	R	L	R	L	R	R	L	L
10	11	12	13	14	15	16	17	18	19		
3.32	3.59	4.76	1.12	0.49	4.24	4.76	-0.08	-0.12	6.08		
2.46	4.93	4.87	7.38	7.93	4.41	5.01	9.22	7.75	4.16		
2.06	1.37	1.61	3.29	3.38	3.4	3.88	4.1	3.84	2.89		
0.79	0.86	0.82	0.75	0.84	0.92	1.19	1.75	1.76	1.18		
1.24	-1.46	-1.56	1.04	1.18	0.72	1.14	-0.11	-0.36	1.92		
0.73	1.48	1.3	1.58	1.46	1.67	2.23	0.39	0.41	0.91		
2.13	1.3	1.4	1.51	1.94	1.75	2.05	1.92	2.34	3.19		
1.5	2.09	1.89	2.18	2.49	1.18	1.64	0.66	0.89	2.49		
3.46	3.22	3.61	3.56	4.39	4.06	5.07	3.8	4	3.17		
1.82	5.81	5.54	5.36	5.77	5.84	6.55	2.51	2.18	4.98		
6.75	4.18	5.05	4.6	6.07	5.4	6.18	5.15	4.58	7.71		
8.33	7.21	7.92	9.38	10.6	7.38	8.43	7.37	7.68	4.3		
9.4	8.47	8.51	10.63	11.27	9.6	9.91	10.36	9.82	8.62		
10.96	8.01	10.97	11.11	11.75	10.14	11.72	9.57	9.56	9.42		
14.14	9.45	10.04	14.69	15.13	12.26	12.85	14.22	13.08	14.39		
15.02	14.7	13.83	16.45	16.48	16.4	16.71	17.55	17.66	16.88		
21.4	17.6	17.79	19.94	21.13	21.44	20.8	20.22	19.44	20.09		
22.31	20.29	20.43	22.74	23.64	22.27	24.22	23.43	22.7	22.47		
22.3	21.93	21.6	21.82	22.12	23.81	24.29	23.19	23.01	23.57		
26.66	27.1	26.51	27.15	29.08	26.34	27.81	25.59	26.54	24.08		
29.68	26.82	28.32	27.94	30.79	30.83	31.96	25.93	26.3	28.66		
33.04	33.6	33.14	31.7	34.01	34.62	34.6	28.1	29.68	31.71		
28.45	28.9	28.07	28.89	28.66	28.11	31.01	32.35	31.48	31.41		
25.42	24.54	25.92	21.94	27.39	23.04	25.87	21.58	25.97	23.69		
26.51	19.43	23.55	13.87	23.21	17.12	31.25	17.19	20.88	19.72		
9.81	15.45	13.12	6.38	8.29	9.67	18.42	9.49	13.85	6.83		
9.7	4.19	4.08	10.37	7.69	10.15	11.22	16.2	13.31	14.28		
5.28	-6.28	-0.91	-3.53	-3.91	-3.85	5.4	6.48	0.63	3.75		
20.46	11.21	14.01	7.9	17.56	12.75	19.74	15.19	18.17	4.28		
32.9	38.36	40.53	36.8	35.98	33.84	30.91	26.25	23.58	37.23		
39.9	49.59	44.81	50.5	48.16	47.24	44.54	42.48	38.6	47.15		
46.78	48.01	37.82	45.36	42.18	44.79	45.16	42.24	39.28	40.97		
48.56	45.7	41.4	43.15	43.79	41.12	38.88	42.15	42.23	45.66		
39.61	41.43	42.17	41.7	43.95	42.49	37.73	46.03	45.1	49.2		

132	150	150	150	150	150	150	150	150	150	150	150
R	L	R	L	R	L	R	L	R	L	R	L
20	1	2	3	4	5	6	7	8	9		
2.06	-1.96	0.59	-3.58	-2.26	1.31	3.68	-3.1	-0.36	-6.1		
1.99	-0.52	1.52	-1.51	-1	0.22	2.79	-0.57	0.75	-3.01		
1.58	3.06	3.91	2.58	3.27	1.67	3.13	0.97	2.15	-0.18		
0.72	2.05	2.85	1.98	2.53	2.07	3.35	2.41	3.13	1.64		
1.47	2.34	3.34	3.59	4.29	3.11	4.63	-0.64	0.52	2.11		
1.04	4.67	6.17	5.43	6.03	4.45	6.36	4.74	5.81	4.3		
3.66	4.98	6.84	5.37	6.54	4.68	6.65	4.27	5.79	4.9		
2.82	3.64	5.23	3.19	4.19	4.33	6.17	3.74	4.4	4.49		
2.98	9.44	12.21	7.49	9.63	8.48	11.16	9.37	11.59	8.77		
4.42	10.99	12.2	9.77	10.78	9.71	11.24	9.76	11.33	10.03		
7.11	10.31	12.27	12.62	13.72	13.26	14.29	11.27	13.5	12.99		
4.31	15.11	15.71	14.13	15.24	15.64	16.92	14.49	16.62	14.44		
8.3	16.33	16.34	17.02	17.31	16.75	17.05	16.65	17.87	16.3		
9.5	18.41	18.03	19.19	19.6	17.77	18.92	17.91	18.37	18.49		
15	22.71	21.33	21.79	22.98	20.26	21.58	20.69	23.71	22.58		
16.97	23.89	26.09	20.15	20.09	25.36	25.72	20.62	21.9	23.44		
19.25	24.55	25.05	24.15	25.59	21.47	23.55	24.07	25.26	25.25		
21.98	25.75	27.31	30	30.61	22.96	22.96	27.74	28.73	28.12		
22.67	27.86	30.99	28.98	32.07	28.28	30.2	28.64	31.37	25.07		
24.47	32.67	29.69	28.92	29.6	33.21	35.45	33.35	33.89	33.41		
25.7	38.84	38.03	33.83	35.38	36.19	39.37	37.81	38.26	33.77		
32.32	38.52	39.91	36.28	36.44	38.79	40.5	40.15	40.31	36.63		
28.77	35.75	30.69	34.69	34.53	34.46	33.54	30.6	37.31	31.46		
26.78	25.01	29.42	22.3	27.94	28.23	30.59	20.66	23.61	23.12		
27.72	18.69	21.82	20.09	22.04	27.05	26.46	20.67	21.72	18.41		
11.11	9.3	11.12	7.5	19.81	19	17.06	9.79	9.35	11.97		
17.98	9.3	15.72	13.26	17.75	11.48	14.63	10.18	12.46	11.89		
4.07	-4.09	11.05	0.05	6.68	1.96	6.06	0.37	5.83	9.46		
12.09	13.38	21.73	4.9	14.91	15.46	21.45	7.44	16.84	19.51		
39.09	22.02	23.65	20.86	27.19	27.22	27.55	21.54	28.43	29.42		
47.63	37.22	38.99	35.4	37.61	33.75	42.47	38.31	35.46	38.97		
40.47	35.72	37.88	32.34	50.39	34.83	39.99	21.8	34.34	36.06		
50.53	33.36	39.07	35.91	43.02	36.76	39.27	29.98	40.83	38.98		
49.8	37.04	36.32	40.22	37.15	38.26	37.16	37.21	37.46	35.23		

150	150	150	150	150	150	150	150	150	150	150	150
R	L	R	L	R	L	R	L	R	L	R	L
10	11	12	13	14	15	16	17	18	19		
-4.15	-3.39	-2.71	-0.87	-3.52	-2.81	2.84	-2.06	-1.88	-2.77		
-1.63	-2.81	-3.3	-0.8	-2.69	0.36	2.2	-1.46	-1.08	-1.69		
0.76	0.86	0.54	2.13	1.13	2.91	3.7	1.84	2.36	1.59		
1.8	2.38	2.28	1.74	1.55	2.24	2.54	1.94	2.31	1.31		
2.21	1.56	1.03	4.09	3.56	4.8	5.2	-0.3	0.37	2.99		
4.4	6.16	5.68	5.64	5.6	6.15	6.34	5.19	5.74	4.46		
5.45	5.1	5.12	5.97	6.25	5.47	6.62	5.66	6.08	5.11		
4.46	4.25	4.38	5.13	5.12	4.52	4.58	3.03	4.04	3.99		
9.97	8.91	10.31	10.01	10.85	10.96	11.62	8.98	9.48	9.02		
9.98	10.59	10.35	11.42	11.3	11.77	11.98	9.4	10.72	10.27		
13.48	15.14	14.39	14.87	14.9	12.39	12.79	11.08	12.53	12.5		
14.23	14.44	14.15	14.63	14.9	15.57	16.2	12.89	14.67	13.79		
15.31	16.99	14.99	16.97	16.91	17.88	17.67	13.13	15.6	16.37		
17.5	19.82	16.73	18.67	18.97	18.6	19.25	12.89	16.89	18.39		
21.07	19.4	22.48	21.18	22.61	17.77	19.24	18.68	20.44	20.73		
25.18	22.58	23.88	24.3	24.17	22.04	22.25	23.84	23.8	22.6		
25.56	25.81	26.51	29.01	27.16	24.03	23.83	28.66	29.24	24.23		
28.77	24.26	24.81	25.98	26.73	28.76	29.29	27.67	27.85	29.33		
25.02	26.63	27.93	26.7	27.92	30.48	29.76	26.36	27.68	27.65		
35.16	33.21	32.57	33.17	33.3	32.14	32.57	36.3	34.78	31.84		
34.57	27.53	29.21	36.95	39.55	36.46	37.26	38.03	37.87	37.13		
38.27	34.77	35.86	38.42	38.21	39.39	38.93	38.79	39.09	36.03		
34.22	36.99	31.76	35.01	34.22	36.53	37.41	36.64	35.65	33.43		
32.84	24.12	32.79	26.06	31.27	23.53	31.39	24.6	27.16	26.66		
24.07	17.56	25.62	20.7	22.33	22.59	24.12	19.37	21.65	22.96		
15.06	14.71	15.18	9.71	13.97	11.06	12.1	13.59	11.07	12.96		
4.69	11.05	2.4	2.08	14.8	7.51	11.26	16	16.05	18.65		
-4.9	9.86	-1.25	0.98	11.38	-1.54	9.44	8.94	9.19	8.22		
9.98	18.3	18.83	19.93	23.73	13.06	18.44	15.87	18.12	13.72		
22.95	30.69	16.39	21.81	29.26	23.1	28.76	17.4	16.61	24.96		
27.94	37.71	28	36.33	36.01	37.96	41.3	30	28.78	34.85		
29.72	40.82	33.82	40.46	36.66	40.75	37.98	27.22	28.98	38.71		
40.65	38.78	39.06	35.16	38.24	36.02	41.42	28.82	30.89	35.89		
30.79	34.82	33.73	37.44	36.25	38.56	32.08	36.82	35.58	37.92		

150	168	168	168	168	168	168	168	168	168	168	168
R	L	R	L	R	L	R	L	R	R	L	L
20	1	2	3	4	5	6	7	8	9		
0.79	-9.08	-8.41	-9.48	-7.47	-8.67	-8.39	-9.72	-9.57	-8.26		
0.13	-9	-7.22	-8.38	-5.93	-10.08	-8.23	-10.58	-9.04	-6.61		
2.63	-2.1	-0.44	-3.1	-0.44	-1.21	0.32	-1.75	-0.91	-2.14		
1.78	2.57	4.09	2.36	3.94	2.96	4.52	2.69	3.64	2.81		
3.23	6.14	7.71	6.01	8.16	6.31	7.95	5.87	7.05	5.9		
5.18	7.84	9.38	7.87	9.2	8.07	9.14	7.91	9.03	7.65		
6.01	9.83	11.17	9.44	10.77	9.42	10.52	9.82	11.16	9.6		
4.34	10.23	11.1	10.78	11.62	10.83	12.14	10.89	12.08	10.59		
10.31	13.47	16.49	13.28	15.45	13.72	15.77	13.71	16.36	13.2		
10.23	20.6	20.36	20.87	20.66	19.52	20.32	20.61	21.69	20.43		
12.6	25.83	24.13	24.16	23.28	21.58	21.78	23.96	22.19	24.17		
14.29	28.33	25.26	26.79	24.82	26.5	25.27	26.18	24.85	28.23		
15.31	26.67	23.76	26.34	23.7	25.98	24.63	25.79	24.21	27.44		
17.43	28.51	26.33	28.33	26.63	27.54	26.93	26.42	25.78	29.88		
20.53	30.23	29.05	32.02	29.8	29.86	30.54	27.89	29.76	30.59		
22.57	31.56	31.35	31.58	31.24	30.09	29.83	30	28.7	31.47		
24.95	37.58	39.37	36.26	37.47	36.77	36.66	36.79	37.02	38.16		
29.46	38.44	40.22	39.28	40.2	38.38	40.45	37.67	41.6	39.11		
29.08	35.8	37.17	36.09	38.19	35.54	37.18	36.05	37.75	36.91		
34.17	38.78	37.47	39.4	38.09	39.06	37.96	40.57	36.72	40.31		
36.42	42.97	41.75	42.78	42.05	40.79	42.03	42.76	42.62	42.65		
37.94	46.08	46.42	43.85	44.85	47.38	45.97	46.98	47.56	46.38		
31.82	44.41	45.47	46.53	43.33	46.26	48.56	43.88	45.43	49.13		
28.29	45.45	45.17	43.14	43.16	48.88	46.91	47.37	45.57	44.52		
27.32	46	47.53	40.8	44.41	47.26	49.54	43.39	48.02	42.35		
14.86	37.16	40.91	38.37	38.85	39.09	41.62	36.7	37.16	38.56		
15.08	28.04	31.62	26.53	37.69	30.34	33.64	27.76	28.97	35.39		
6.35	16.81	25.14	17.68	20.39	22	24.39	23.31	22.57	23.59		
17.31	30.1	33.75	27.73	31.94	26.6	37.52	34.35	31.79	28.75		
20.6	39.85	41.8	39.39	41.2	39.2	42.66	40.55	43.21	40.23		
28.81	43.57	45.13	41.34	41.75	37.36	40.9	40.66	41.83	40.36		
33.2	38.26	36.19	39.75	40.09	31.96	46.04	42.78	42.08	39.79		
36.03	36.34	39.14	41.5	48.56	40.85	39.36	45.78	33.79	48.25		
38.38	42.68	46.25	35.38	40.43	35.84	38.13	35.08	37.99	36.69		

168	168	168	168	168	168	168	168	168	168	168	168
R	L	R	L	R	L	R	L	R	R	L	L
10	11	12	13	14	15	16	17	18	19		
-8.5	-9.01	-9.19	-10.69	-10.82	-9.29	-8.63	-8.9	-8.98	-7.78		
-6.09	-10.18	-9.13	-7.67	-7.57	-9.16	-8.32	-9.6	-9.91	-6.46		
-1.99	-2.11	-1.94	-1.04	-0.43	-1.13	0.01	-0.9	-0.49	-1.51		
2.74	2.98	2.75	3.61	4.35	3.92	4.45	3.88	4.17	3.37		
6	5.34	5.67	6.86	7.69	7.17	7.8	7.27	7.68	6.8		
7.84	7.04	6.86	7.63	8.19	7.62	8.46	7.69	7.83	8.41		
9.61	9.33	9.09	10.69	10.67	10.33	10.21	9.76	9.81	10.14		
10.18	12.17	11.49	10.2	10.81	11.41	11.82	11.39	11.35	11.29		
14.04	13.61	14.41	14.52	16.05	13.72	15.13	13.2	14.49	14.22		
19.38	20.28	19.1	21.43	19.62	21.21	19.78	20.83	19.35	20.76		
22.72	24.89	21.93	24.69	22.02	25.75	23.42	25.1	23.67	23.16		
25.73	26.23	23.62	28.23	23.72	26.97	23.18	26.35	24.16	27.94		
23.42	27.12	23.07	27.58	22.5	27.42	22.42	26.72	22.8	27.05		
26.25	29.71	26.05	28.78	24.03	28.73	24.4	28.75	25.56	28.45		
28.96	29.81	27.76	32.4	26.8	31.52	26.57	31.86	28.64	31.26		
31.21	31.83	31.29	32.68	32.99	31.99	32.63	30.93	31.76	29.6		
37.8	39.09	38.81	38.12	39.26	38.9	38.9	36.54	38.29	35.51		
38.15	39.61	37.6	40.5	38.14	39.02	38.73	39.67	38.39	39.3		
37.51	36.24	36.68	37.44	35.78	36.58	35.96	36.19	36.39	36.4		
40.34	39.25	40.18	40.08	40.04	39.6	39.61	37.46	40.78	37.17		
38.92	40.92	41.52	41.74	40.84	42.92	40.28	43.79	42.38	43.45		
47.02	47.19	46.34	45.47	45.55	46.08	45.96	45.26	45.18	47.85		
43.54	50.15	38.33	50.89	41.29	44.97	42.65	44.97	39.02	48.38		
48.85	46.48	47.11	44.94	41.72	44.95	41.59	45.71	43.74	45.32		
49.18	44.37	44.32	42.16	50.66	44.92	50.68	40	46.41	43.29		
31.31	38.29	34.08	35.45	40.87	36.91	39.87	37.32	39.81	37.57		
31.7	32.29	23.47	26.23	22.82	25.15	24.5	32.81	31.91	32.3		
21.61	21.58	21.19	19.34	26.9	17.66	22.74	19.51	21.7	23.37		
33.55	27.96	35.25	32.23	40.24	32.78	41.96	28.6	36.17	29.78		
46.13	38.58	42.19	47.27	40.7	46.89	43.39	37.8	39.45	40.37		
47.19	40.1	46.75	49.92	46.61	48.09	49.19	40.3	43.11	43.18		
40.93	39.15	40.95	41.84	42.18	40.22	44.17	39.27	35.79	38.46		
38.94	46.89	35	51.29	39.59	49.42	39.38	37.88	37.55	40.19		
34.34	33.45	40.36	37.29	44.36	45.63	45.48	44.99	41.96	42.95		

<b>168</b>									
<b>R</b>									
<b>20</b>									
-8.4	<b>20</b>	<b>20</b>	<b>3.108</b>	<b>2.679306</b>	<b>-1.6155</b>	<b>2.442687</b>	<b>-8.962</b>	<b>0.836764</b>	
-6.37	<b>25</b>	<b>25</b>	<b>5.0605</b>	<b>2.602336</b>	<b>-0.705</b>	<b>1.688352</b>	<b>-8.2765</b>	<b>1.472804</b>	
-1.78	<b>31.5</b>	<b>31.5</b>	<b>2.4885</b>	<b>0.930451</b>	<b>2.0505</b>	<b>1.125599</b>	<b>-1.254</b>	<b>0.864854</b>	
<b>3.06</b>	<b>40</b>	<b>40</b>	<b>1.0135</b>	<b>0.322658</b>	<b>2.194</b>	<b>0.521227</b>	<b>3.443</b>	<b>0.694066</b>	
<b>6.51</b>	<b>50</b>	<b>50</b>	<b>0.4685</b>	<b>1.284348</b>	<b>2.6015</b>	<b>1.720903</b>	<b>6.7945</b>	<b>0.861373</b>	
<b>8.25</b>	<b>63</b>	<b>63</b>	<b>1.252</b>	<b>0.551921</b>	<b>5.425</b>	<b>0.704881</b>	<b>8.0955</b>	<b>0.681789</b>	
<b>10.19</b>	<b>80</b>		<b>2.1555</b>	<b>0.81841</b>	<b>5.643</b>	<b>0.719182</b>	<b>10.078</b>	<b>0.606279</b>	
<b>11.07</b>	<b>100</b>		<b>1.633</b>	<b>0.749773</b>	<b>4.361</b>	<b>0.711876</b>	<b>11.172</b>	<b>0.619028</b>	
<b>15.26</b>	<b>125</b>	<b>125</b>	<b>3.5145</b>	<b>0.862704</b>	<b>9.928</b>	<b>1.20407</b>	<b>14.505</b>	<b>1.080266</b>	
<b>19.62</b>	<b>160</b>		<b>4.5395</b>	<b>1.573325</b>	<b>10.691</b>	<b>0.814855</b>	<b>20.321</b>	<b>0.731803</b>	
<b>21.83</b>	<b>200</b>		<b>6.1135</b>	<b>1.868648</b>	<b>13.045</b>	<b>1.296727</b>	<b>23.513</b>	<b>1.347552</b>	
<b>25.68</b>	<b>250</b>	<b>250</b>	<b>7.586</b>	<b>1.638624</b>	<b>14.903</b>	<b>0.986931</b>	<b>25.902</b>	<b>1.575144</b>	
<b>24.24</b>	<b>315</b>		<b>9.243</b>	<b>1.145619</b>	<b>16.4375</b>	<b>1.133364</b>	<b>25.143</b>	<b>1.841276</b>	
<b>26.66</b>	<b>400</b>		<b>9.5185</b>	<b>1.842105</b>	<b>18.0915</b>	<b>1.479169</b>	<b>27.186</b>	<b>1.658536</b>	
<b>29.25</b>	<b>500</b>	<b>500</b>	<b>12.5915</b>	<b>1.680154</b>	<b>21.088</b>	<b>1.541416</b>	<b>29.7285</b>	<b>1.661332</b>	
<b>31.88</b>	<b>630</b>		<b>16.171</b>	<b>1.55383</b>	<b>23.2235</b>	<b>1.745738</b>	<b>31.2305</b>	<b>1.10093</b>	
<b>38.53</b>	<b>800</b>		<b>19.591</b>	<b>1.440376</b>	<b>25.3965</b>	<b>1.946166</b>	<b>37.7915</b>	<b>1.125163</b>	
<b>38.43</b>	<b>1000</b>	<b>1k</b>	<b>22.5385</b>	<b>1.082814</b>	<b>27.3545</b>	<b>2.249665</b>	<b>39.1445</b>	<b>1.058402</b>	
<b>37.05</b>	<b>1250</b>		<b>22.824</b>	<b>1.031659</b>	<b>28.4335</b>	<b>1.970624</b>	<b>36.645</b>	<b>0.729113</b>	
<b>41.88</b>	<b>1600</b>		<b>26.796</b>	<b>1.625544</b>	<b>32.97</b>	<b>1.906962</b>	<b>39.2375</b>	<b>1.378935</b>	
<b>41.13</b>	<b>2000</b>	<b>2k</b>	<b>28.94</b>	<b>2.039448</b>	<b>36.123</b>	<b>3.128746</b>	<b>41.9145</b>	<b>1.18381</b>	
<b>44.3</b>	<b>2500</b>		<b>31.6055</b>	<b>2.275384</b>	<b>38.1615</b>	<b>1.643137</b>	<b>46.0835</b>	<b>1.076741</b>	
<b>43.87</b>	<b>3150</b>		<b>29.515</b>	<b>1.505137</b>	<b>34.3355</b>	<b>2.173867</b>	<b>45.053</b>	<b>3.355947</b>	
<b>42.95</b>	<b>4000</b>	<b>4k</b>	<b>24.8445</b>	<b>2.052176</b>	<b>26.9795</b>	<b>3.611704</b>	<b>45.1765</b>	<b>2.072152</b>	
<b>47.35</b>	<b>5000</b>		<b>21.7925</b>	<b>4.505946</b>	<b>22.262</b>	<b>2.841446</b>	<b>45.632</b>	<b>3.145516</b>	
<b>35.62</b>	<b>6300</b>		<b>10.8485</b>	<b>3.20188</b>	<b>12.9585</b>	<b>3.298964</b>	<b>37.776</b>	<b>2.462883</b>	
<b>34.61</b>	<b>8000</b>	<b>8k</b>	<b>10.6815</b>	<b>4.061803</b>	<b>11.812</b>	<b>4.731524</b>	<b>29.8885</b>	<b>4.194541</b>	
<b>16.66</b>	<b>10000</b>		<b>0.7</b>	<b>5.101978</b>	<b>4.702</b>	<b>5.243917</b>	<b>21.407</b>	<b>2.804455</b>	
<b>30.64</b>	<b>12500</b>		<b>14.1785</b>	<b>5.555911</b>	<b>16.1455</b>	<b>4.761277</b>	<b>32.5845</b>	<b>4.146081</b>	
<b>41.5</b>	<b>16000</b>	<b>16000</b>	<b>33.0425</b>	<b>4.785688</b>	<b>24.0205</b>	<b>4.427484</b>	<b>41.618</b>	<b>2.668699</b>	
<b>45.12</b>	<b>20000</b>	<b>20000</b>	<b>44.67</b>	<b>4.099094</b>	<b>35.2935</b>	<b>4.411976</b>	<b>43.623</b>	<b>3.467528</b>	
<b>33.56</b>	<b>25000</b>	<b>25000</b>	<b>44.422</b>	<b>3.729925</b>	<b>35.5835</b>	<b>6.061463</b>	<b>39.673</b>	<b>3.393998</b>	
<b>35.84</b>	<b>31500</b>	<b>31500</b>	<b>44.401</b>	<b>3.403376</b>	<b>36.907</b>	<b>3.84189</b>	<b>41.277</b>	<b>5.213336</b>	
<b>44.35</b>	<b>40000</b>	<b>40000</b>	<b>43.09</b>	<b>3.487047</b>	<b>36.421</b>	<b>2.240265</b>	<b>40.1815</b>	<b>4.271299</b>	

**Table III – Coding for assignment of test identification numbers**

<input type="text"/>	<input type="text"/>	<input type="text"/> / <input type="text"/>	<input type="text"/>	<input type="text"/> / <input type="text"/>
Experimenter	Device Type	EAR product or	Manuf. Code	Sequential Test Code
<b>Experimenter</b>				
0 – Outside test lab				60 Adco Hearing Conservation
1 – EHB				61 Howard Leight
2 – RWK				62 American Optical
3 – DLP / KLD / MES / CAM				63 Aural Technology
4 – RG, Jr. / IM / FL				64 Bilsom
5 – Renumbered average reports				65 Coe Labs
A – Average report				66 David Clark
B – ANSI ATF (Blockhead)				67 Douglass
C – Contract test				68 ERB
G – GRAS 45CB ATF				69 Excel-oy
I – ISL-B ATF				70 Flents
K – KEMAR ATF				71 Glendale
L – Manufacturer's Label Values				72 Hearing Control Inc.
				73 Hellberg
<b>Device Type</b>				74 Insta-Mold
1 – Premolded				75 Jackson
2 – Formable				76 Marion
3 – Custom Earmold				77 Mediprint, Inc.
4 – Semi-Insert				78 MSA
5 – Muff (59 – Ultra 9000)				79 Norton (North)
6 – Plug + Muff				80 OPTAC
7 – Cap-attached muffs (Helmets, Hard Hats)				81, 8A, 8B, 8C Peltor
8 – Supra-Aural				82 Racial
9 – Miscellaneous				83 Safety Supply (Safeco)
C – Communication				84 Sellstrom
				85 SMR
<b>E-A-R Products</b>				86 Tasco
0 – Prototype				87 3M Corp.
1 – E-A-R Plug (Vinyl foam)				88 Techmed
2 – Model 1k, 2k, 3k, 4k; Premolded (not UltraFit)				89 Wilson
3 – UltraFit Plug				90 Safety Direct
4 – Urethane Plug or Pod				91 Specialty Composites
5 – Filtered Plug (Hi-Fi Plug or Combat Arms)				92 Emtech
				93 Moldex-Metric
<b>Sample Lab ID Numbers (HPDA)</b>				
100 – EARCAL, 10 subj., S3.19				
101 – EARCAL, 5 subj., S3.19 w/ exception				
110 – EARCAL, 10 subj., S12 6-1984				
144 – EARCAL, 20 subj., S12 6-2008 (A) (insert)				
145 – EARCAL, 10 subj., S12 6-2008 (B) (muff)				
146 – EARCAL, 20 subj., S12 6-2008 (A) (insert)				
147 – EARCAL, 10 subj., S12 6-2008 (B) (muff)				
<b>Sample Test IDs</b>				
013030 –	<b>(b) (6)</b>			
415001 – Hi-Fi Plug	121625 – Classic Plus			
	258149 – Peltor H10A			

**Test ID**

IC8100	MT17H682 BTH , ComTac ACH, ComTac III, and ComTac XP w/gel cushions
IC8101	TEP-100 PrePro w/UltraFit tip 78-8150-1320-2 Max Volume
I15100	Combat Arms 4.0 P/N 370-1031 AR-15 Pulse
I15101	Combat Arms 4.0 P/N 370-1031 Shock Tube Pulse
I15102	Combat Arms 4.1 P/N 900-0274
I15103	Combat Arms 2.0 P/N 370-1000

(b) (4)

